Information of Broadcast (IOB)

By

Mr. Nitad Ngamwararotsakul

Final Report of the Three - Credit Course
CS 6998 System Development Project

Submitted in Partial Fulfillment
of the Requirements for the Degree of
Master of Science
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Acadamic Year	November 1999

The Graduate School of Assumption University has approved this final report of the three credits course, CS 6998 System Development Project, submitted in partial fulfillment of the requirements for the degree of Master of Science in Computer Information Systems.
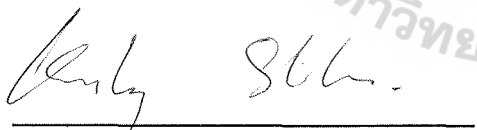
Approval Committee :

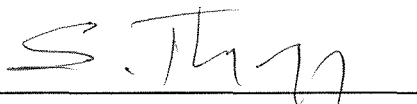|	
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November 1999

ACKNOWLEDGEMENTS

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I. INTRODUCTION

1.1 Background of the Project

GUI's visionary determination is to present news and information to the public in a straightforward aspects without distortion of facts. People will receive accurate news and information including documentaries, edu-tainment, and quality entertainment. GUI, as a new option for information resources, will continually improve and develop the quality of life of Thai people across the country.

On the forth of April, 1995 "SIAM TV Group" who has the mutual determination in creating Thai society with an independent quality television was then officially granted the concession to be the operator of UHF system television project from the office of the Permanent Secretary. The television channel is called "GUI".

Preparing for supporting queue task in year 2000, therefore IT division will set up the Information of Broadcast (IOB) under Windows 95 on Microsoft Network. We will apply easily and well defined for using. And it connects on-line with our centralized database also.

Redundancy documents, Loss documents on the way, Forgetting in On-Air Confirm, Various customer request from oral sales, immediately changing on On-Air Program, Mass Program, Collecting sequence of break in each program including the customer payment etc. are the main factors which make the Information of Broadcast (IOB) occurs.

1.2 Objectives of the Project

The objectives of the project as follows :

1. To study and analyze the existing system function

2. To design the Proposed System to solve the problems caused by existing problem

3. To obtain overall requirements from user

4. To improve the quality, efficiency and effectiveness of Queue Tasks

5. Reduce the cost, reduce the loss and defect

6. To increase productivity, accuracy, reliability of Queue Tasks

7. Develop and write a custom made software by using VISUAL BASIC language

1.3 Scope of Project :

The project covers the Information of Broadcast (IOB) that includes :

1. Maintain Data

2. Update Program Listing

3. Customer Order Entry

4. Monitoring Queue

5. Preparing Invoice

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1.4 Deliverables

For the Information of Broadcast (IOB) project of GUI, we begin to study the existing system of queue from January and we plan to deliver the proposed system to the user in the end of June 1999 (as Gantt Chart present in figure 1.1).

Figure 1.1. Gantt Chart.

ID	Task Name	Start Date	End Date	Duration
1	Context Diagram of existing system	4/1/42	8/1/42	5d
2	Identify area under study	11/1/42	29/1/42	15d
3	Develop physical DFD of existing system	25/1/42	29/1/42	5d
4	Identify contents of existing data store	25/1/42	12/2/42	15d
5	Develop logical DFD of existing system	25/1/42	12/2/42	15d
6	Develop the logical DFD of proposed system	15/2/42	26/2/42	10d
7	Identify of contents of the data stores for proposed system	15/2/42	26/2/42	10d
8	Data Dictionary	21/2/42	5/3/42	10d
9	Structured Charts	2/3/42	19/3/42	14d
10	Develop the physical of the new system	8/3/42	19/3/42	10d
11	Minispec	8/3/42	26/3/42	15d
12	Programming	30/3/42	17/5/42	35d
13	Screen Layout	15/3/42	9/4/42	20d
14	Report Layout	30/3/42	12/4/42	10d
15	Data Conversion	3/5/42	21/5/42	15d
16	Testing	3/5/42	21/6/42	36d
17	Training	3/5/42	7/5/42	5d
18	Acceptance Test	6/6/42	17/6/42	9d
19	Documentation	14/6/42	29/6/42	12d

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II. EXISTING SYSTEM

2.1 Background of the Organization

In the year 1992 (2535 B.E.) , the Prime Minister Anand Panyarachun and his cabinet realized the important use of mass media in enabling the people, under the democratic regime, to have the right and freedom of access to news, information and social events thoroughly and completely.

Under the leadership of H.E Anand Panyarachun, an independent television project has emerged from his initiative with the purpose of creating neutral and quality media which provide accurate and precise information. In addition, the freedom of the rights-to-know and to act by the people should be maintained in order to improve the democratic system of the country. The cabinet then gave the opportunity to private enterprises who are interested in bidding for concession to be the operator of the project.

On the forth of April, 1995 "SIAM TV Group" who has the mutual determination in creating Thai society with an independent quality television was then officially granted the concession to be the operator of UHF system television project from the office of the Permanent Secretary. The television channel is called "GUI" .

GUI television is a new colored television channel, not a cable television, and it does not require any membership subscription fee. You only adjust your television set into UHF system and fine-tunings or install UHF antenna system in the case that you are not in the area of transmittal vicinity. Besides, you can receive our programs via a DTH satellite dish and via the UBC membership subscription.

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GUI television has broadcasted with UHF System (Ultra High Frequency) with the range of frequencies from 510 to 790 MHz whereas current television channels broadcast with VHF system (Very High Frequency) ranged from 47 to 230 MHz.

2.2 Existing Business Function

1. Planning and Forecasting the On-air program

2. Planning and Forecasting the budget of Advertising rate

3. Handling program information

4. Prepare various / upon request report

5. Monitoring Queue

6. Confirm Queue

7. Q to MCR (process queue to master control room for broadcast)

8. Printing Action Plan

9. Checking daily On-Air Queue

10. Customer Order Entry

2.3 Overview of the Current System

About the current system, we use it in manual operation. By example: using Microsoft excel to keep data and print the Program Listing by weekly and monthly etc. (shown in Appendix A)

The processes of work are shown as the following :

1. Update Program Listing
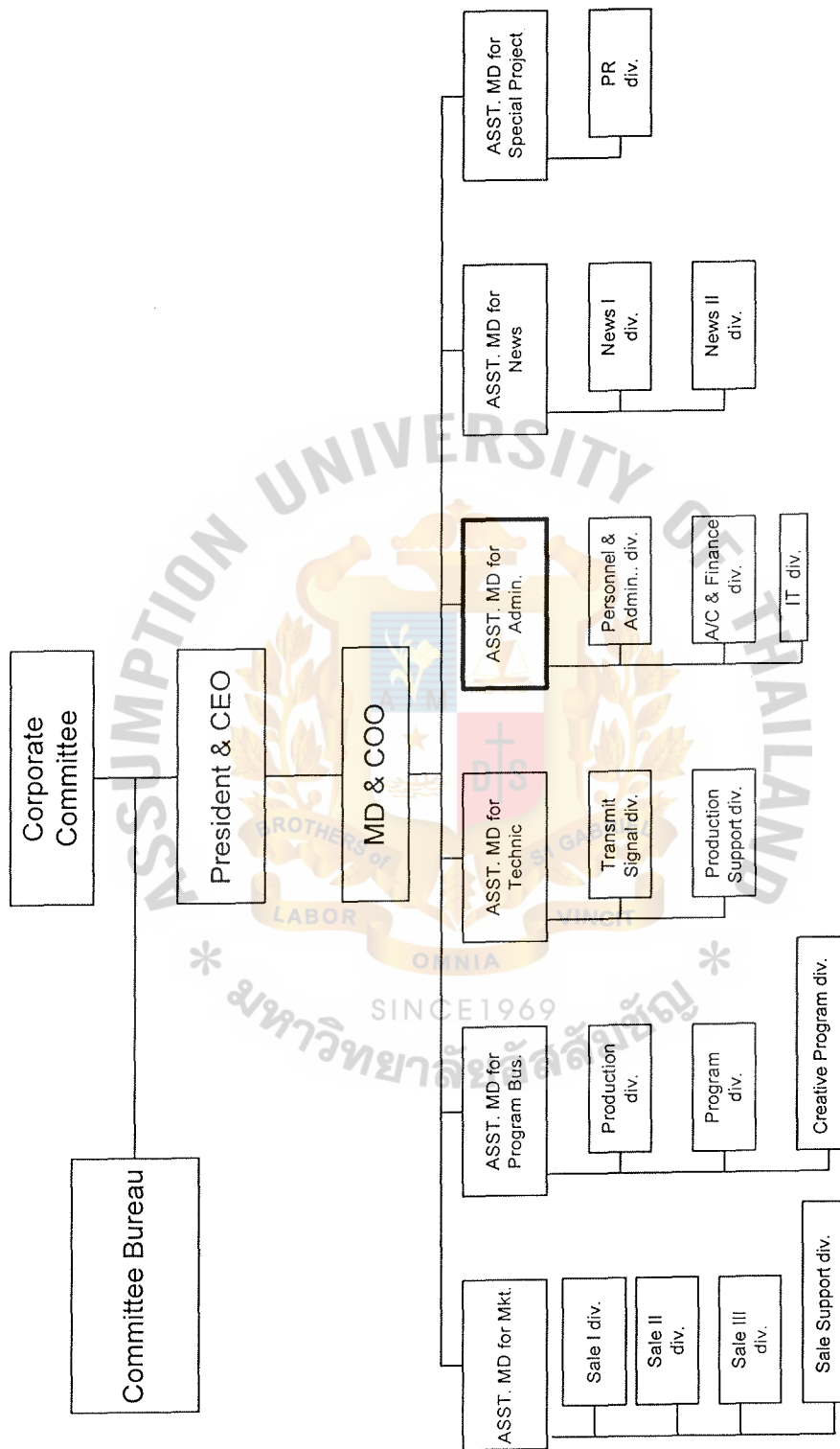
Figure 2.1. Organization Structure of GUI.

- Daily

- Weekly

- Monthly

- Quarterly

2. Update advertising rate

- Monthly

- Special Program

3. Customer order entry

- Verify document

- Classify On-Air status

- Checking customer order

4. Monitoring Queue

- Check Queue record

- Confirm Queue

- Prepare report

5. Preparing Invoice

- Review Ads. rate of each customer

- Prepare invoice

Output of the Existing System

1. Program Listing by week

2. Program Listing by month

3. Summary of GUI spot per year

4. Summary of GUI spot per month

5. Summary of GUI spot per year by free

6. Summary of GUI spot per month by free

2.4 Current Problems

Current problems in the existing system can be identified as follow :

1. Redundancy Document

2. Loss document on the way

3. Forgetting On-Air confirm

4. Sequence of Break in each program

5. Late due payment

6. Too much repetitive work and ineffective filling system

7. Inconsistent redundancy in data processing stage

8. Delay and Poor security control system

9. Monthly and Yearly process consume time

10. Ineffectiveness and deficiency in the system

III. PROPOSED SYSTEM

3.1 User Requirements

During gather information and analysis the existing system, they are stated as :

1. Greater speed of processing for input and processing

2. New system should provide up-to-date and accurate information

3. Information can be shared among several user at the same time

4. Easy to use, the familiarity with system

5. Prepare various report

6. Flexibility in system design

7. Easy to maintenance

8. Operation procedure should be in form of Menu-Driven

9. Security and Operation Control should be designed to protect data

10. Increase productivity

3.2 System Design

The current problems, existing procedure and user requirements are used as a basis for designing new system computerized information system is proposed to the solution of current problems. Detail of new system are represented by

- Context diagram (Appendix A)

- Dataflow diagram (Appendix A)

- Module Specification (Appendix B)

- Structure Chart (Appendix C)

- Data Dictionary (Appendix D)

- Screen Design (Appendix E)

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- Output Report (Appendix F)

Overview of the Proposed System

There are 5 processes in the new proposed system like as :

Process 1.0 Maintain Data

- Update customer   information

- Update product information

- Update tape information

- Update sale information

- Prepare report

Process 2.0 Update Program Listing

- Verify data

- Record ads. rate information

- Prepare program listing monthly / daily

Process 3.0 Customer Order Entry

- Receive document

- Record customer order

  + Verify information [s/n , spot detail, program details, ads. date, calculate amount]

- Print action plan

- Confirm correct data and send to queue

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Process 4.0 Monitoring Queue

- Receive document

- Monitoring queue and confirm status

    + Edit program

    + Edit break / time

    + Set auto sequence break

    + Delete non On-Air

- Confirm tape preparing and status

- Confirm On-Air or Ads. Status

- Print various report

    + Spot in program (bai - pa - nha)

    + Q MCR

    + Tape MCR

    + Summary tape code

Process 5.0 Preparing Invoice

- Print monthly customer account

- Send it to support division to check

- Preparing Invoice

Proposed Screen Layout

The proposed screen layouts of the Information of Broadcast (IOB) are represented in Appendix E .

Proposed Output Report

The proposed output reports are shown in Appendix F , as details below :

1. Action Plan

2. Program Listing - daily / weekly

3. Program Listing - monthly

4. Summary of GUI spot per year [by customer order]

5. Summary of GUI spot per month [by customer order]

6. Summary of GUI spot per year [by free]

7. Summary of GUI spot per month [by free]

8. Summary of GUI sponsor per year [by product]

9. Summary of GUI spot promote per year

10. Summary of GUI spot per year [by VTR]

3.3 Hardware and Software Specification

Hardware Specification :

Personal Computer

Server   :   Compaq Proliant 2500

CPU   :   PC Pentium 200 MHz Up

Memory   :   164 Mbs

HDD.	:	8 Gbs
Monitor	:	14" Color SVGA Display
Network	:	LAN Card 3 com [100 Mbits/sec]
Disk Array	:	SmartRaid Storage Subsystem-DPT.
Client	:	Genuine Intel
CPU	:	PC Pentium 150 MHz Up
Memory	:	48 Mbs
HDD.	:	1.2 Gbs
Monitor	:	15" Color SVGA Display
Network	:	LAN Card 3 com [10 Mbits/sec]

Printer

HP LaserJet 6P/6MP

HP DeskJet 1600C

HUB

HUB 3 com 24 port

Software Specification :

Server

Operating System	:	Windows NT Server version 4.0 (Thai Edition)
DBMS	:	MS SQL Server 7.0 (Thai Edition)
Network	:	Protocol TCP/IP , NetBEUI

<u>Client</u>

Operating System :   Windows 95 / 98

DBMS :   MS Data Access 2.0 Up

Browser :   IE 4.0

Others DLL :   Include in application set up

Software Package :   Microsoft Office 7

Visual Basic 6

Seagate Crystal Report Pro 6

Application :   Information of Broadcast [IOB]

Program

3.4 Security and Controls

Recognition of the necessity for security is a natural outgrowth of the belief that information is a key organizational resource. It's useful to think of security of systems, data and information or an imaging continuum from totally secure totally open.

1. Physical Security : Securing the computer facility, it equipment and software through physical mean.

- Discretionary Security Protection system / Discretionary Access Control

- Human sign – in / out system

- Backup data frequently

2. Logical Security : Refers to logical controls within software itself.
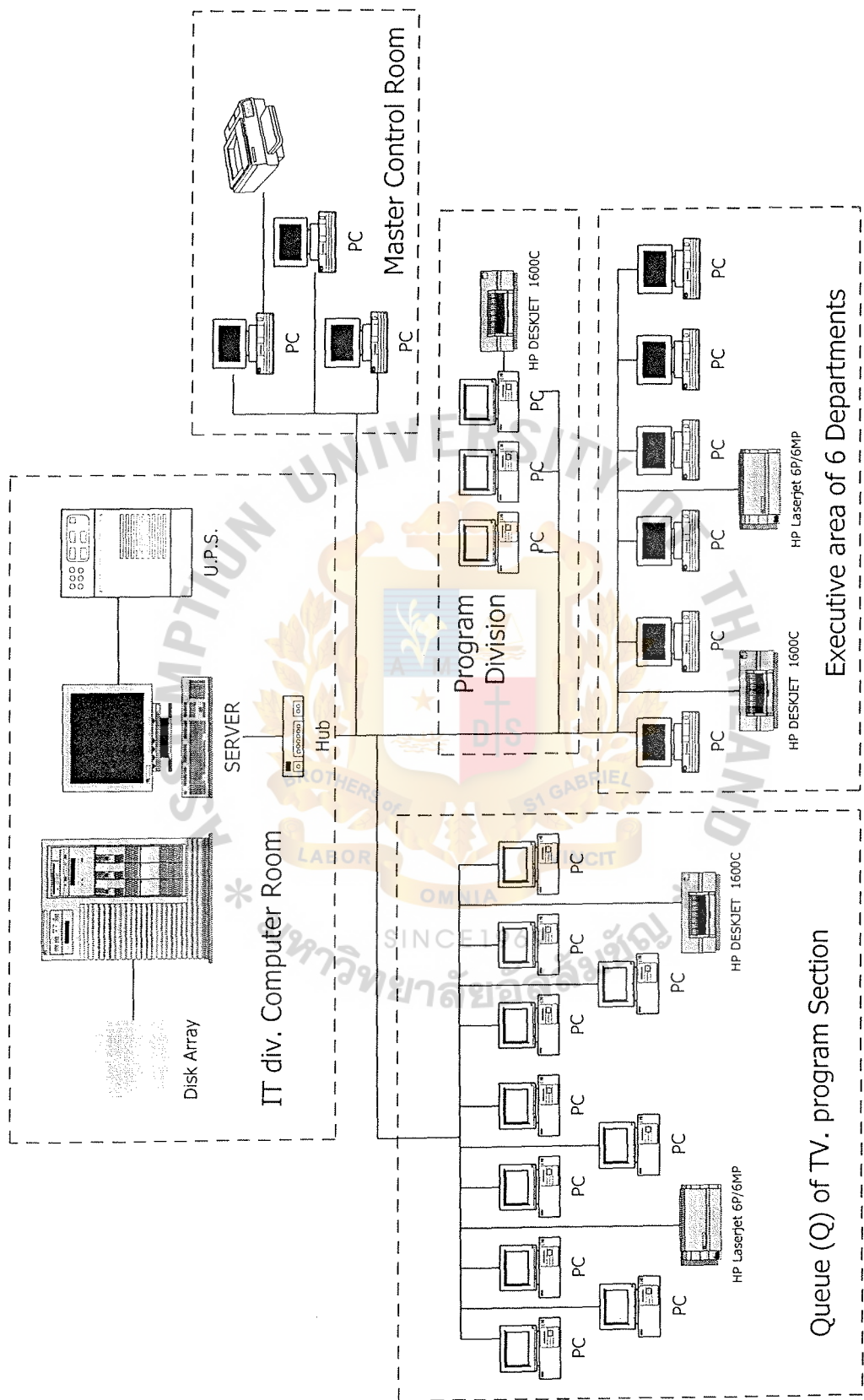
Figure 3.1. Computer Hardware Configuration.

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- System Security : User should enter the login name and correct password before using the system and key "logout" after exit the program.

- Application Security : it can use for protection data from unauthorized or non-privileges users.

3. Backup and Recovery process

3.5   Cost / Benefit Analysis

Cost Analysis

For Existing System :

Investment Cost

	unit	price	total
Hardware Cost - Estimated			
Acer Pentium 133	3	25,000	75,000
printer	1	22,000	22,000
Total Hardware Cost			97,000
Software Cost - Estimated			
Microsoft Office	1	55,000	55,000
Total Software Cost			55,000
Implementing Cost			
User Training			8,000
Site Preparation			5,000

Total Implementation Cost			13,000

Annual Operating Cost

A4" paper	20	80	1,600
3.5" Diskette	5	330	1,650
Toner	2	2,650	5,300
Facilities			30,000
Maintenance			35,000
Total Annual Operating Cost			73,550
Total Investment Cost			238,550

The Formula of Annual Cost of the Existing System :

Annual Cost = $\dfrac{\text{Investment Cost + Implement Cost}}{\text{Estimated System life in year}}$ + Annual Operating Cost

Estimated system life in 2 years

Annual Cost = $\dfrac{238,550 + 13,000}{2}$ + 73,550 = 199,325 Baht

For Proposed System :

OPTION I

Investment Cost

	unit	price	total
Hardware Cost - Estimated			
Compaq Proliant 2500	1	120,000	120,000
Genuine Intel	10	36,000	360,000
printer	1	52,000	52,000
printer	1	32,000	32,000
Network card	11	2,500	27,500
HUB	1	38,000	38,000
Total Hardware Cost			629,500
Software Cost - Estimated			
Microsoft Office	1	55,000	55,000
SQL V 6.5 - 25 Client	1	210,000	210,000
Seagate Crystal Report	1	30,000	30,000
Visual Basic	1	30,000	30,000
Application	1	100,000	100,000
Total Software Cost			425,000
Implementing Cost			
User Training			8,000
Site Preparation			5,000

Total Implementation Cost			13,000
Annual Operating Cost			
A4" paper	20	80	1,600
3.5" Diskette	5	450	2,250
Toner	2	2,650	5,300
Facilities			30,000
maintenance			35,000
Total Annual Operating Cost			74,150
Total Investment Cost			1,141,650
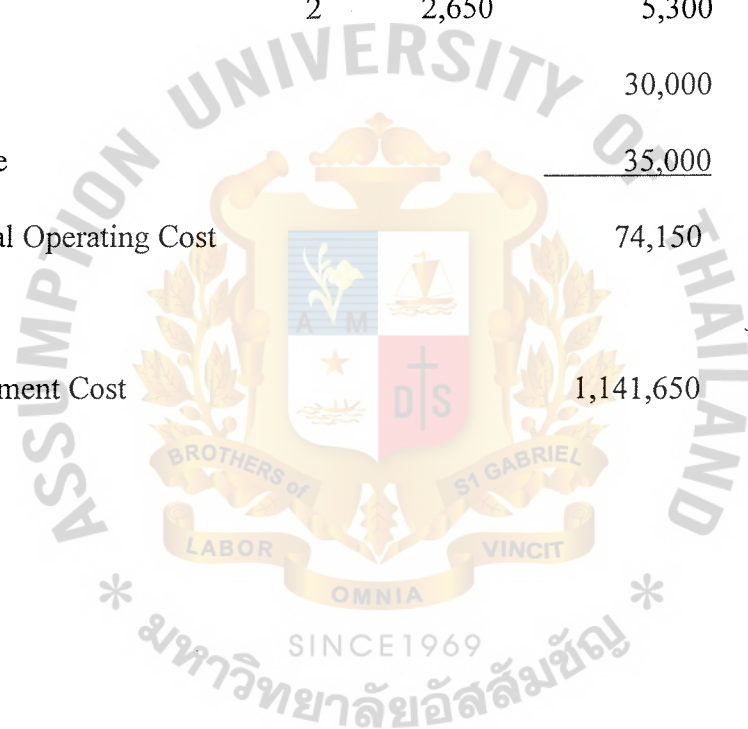
For Proposed System :

OPTION II

Investment Cost

	unit	price	total
Hardware Cost - Estimated			
Compaq Proliant 2500	1	120,000	120,000
Genuine Intel	10	36,000	360,000
printer	1	52,000	52,000
printer	1	32,000	32,000
Network card	11	2,500	27,500
HUB	1	38,000	38,000
Total Hardware Cost			629,500
Software Cost - Estimated			
Microsoft Office	1	55,000	55,000
Oracle [300 MHz]	1	420,000	420,000
Seagate Crystal Report	1	30,000	30,000
Visual Basic	1	30,000	30,000
Application	1	100,000	100,000
Total Software Cost			635,000
Implementing Cost			
User Training			8,000
Site Preparation			5,000

Total Implementation Cost			13,000

Annual Operating Cost

A4" paper	20	80	1,600
3.5" Diskette	5	450	2,250
Toner	2	2,650	5,300
Facilities			30,000
maintenance			35,000
Total Annual Operating Cost			74,150
Total Investment Cost			1,351,650

For Proposed System :

OPTION III

Investment Cost

	unit	price	total
Hardware Cost - Estimated			
Compaq Proliant 2500	1	120,000	120,000
Genuine Intel	10	36,000	360,000
printer	1	52,000	52,000
printer	1	32,000	32,000
Network card	11	2,500	27,500
HUB	1	38,000	38,000
Total Hardware Cost			629,500
Software Cost - Estimated			
Microsoft Office	1	55,000	55,000
Seagate Crystal Report	1	30,000	30,000
Visual Basic	1	30,000	30,000
Application	1	100,000	100,000
Total Software Cost			215,000
Implementing Cost			
User Training			8,000
Site Preparation			5,000
Total Implementation Cost			13,000

Annual Operating Cost

A4" paper	20	80	1,600
3.5" Diskette	5	450	2,250
Toner	2	2,650	5,300
Facilities			30,000
maintenance			35,000
Total Annual Operating Cost			74,150

Total Investment Cost 931,650

Annual Cost of the Proposed System :

The Formula of Annual Cost of the Proposed System :

$$\text{Annual Cost} = \frac{\text{Investment Cost} + \text{Implement Cost}}{\text{Estimated System life in year}} + \text{Annual Operating Cost}$$

OPTION I

Estimated system life in 2 years

$$\text{Annual Cost} = \frac{1,141,650 + 13,000}{2} + 74,150 = 651,475 \text{ Baht}$$

OPTION II

Estimated system life in 2 years

$$\text{Annual Cost} = \frac{1,351,650 + 13,000}{2} + 74,150 = 756,475 \text{ Baht}$$

OPTION III

Estimated system life in 2 years

Annual Cost = $\dfrac{931,650 + 13,000}{2} + 74,150$ = 546,475 Baht

Payback Period

The Payback period is defined as the number of years required to accumulate earnings sufficient to cover its cost using for the proposed system covers as follows :

$$P = \dfrac{I}{(1-T)R}$$

P = Payback Period

I = Investment

R = Average annual return on investment

T = Corporate tax rate in percentage (30%)

Find Average annual return on investment = total saving - Annual Operating Cost

Total saving : reduce 5 staff to 3 staff = 360,000 Baht

calculate from : salary/mth. 15,000 Baht

      for 2 staff = 15,000 x 2 = 30,000 Baht

      salary/yr. = 30,000 x 12 = 360,000 Baht

Annual Operating Cost   74,150   Baht

R = 360,000 - 74,150 =   285,850   Baht

OPTION I

Payback Period   = $\dfrac{1,141,650}{(1-0.30)285,850}$ = 5.71   yrs.

The payback period (after taxes) for the proposed system is 5.71 years.

OPTION II

Payback Period   = $\dfrac{1,351,650}{(1-0.30)285,850}$ = 6.76   yrs.

The payback period (after taxes) for the proposed system is 6.76 years.

OPTION III

Payback Period   = $\dfrac{931,650}{(1-0.30)285,850}$ = 4.66   yrs.

The payback period (after taxes) for the proposed system is 4.66 years.

For Proposed System :

There are 3 options to select as shown in figure 3 (Proposed System Comparison Table).

In option I, The additional database for server is SQL version 6.5 for 25 clients which price is 210,000 Baht. Therefore the total investment cost is 1,141650 Baht. For estimated life in 2 yrs., the annual cost of option I is 651,475 Baht. The payback period (after taxes) for the proposed system is 5.71 years.

In option II, The additional database for server is Oracle for server speed 300 MHz which price is 420,000 Baht. Therefore the total investment cost is 1,351,650 Baht. For estimated life in 2 yrs., the annual cost of option II is 756,475 Baht. The payback period (after taxes) for the proposed system is 6.76 years.

In option III, we use only Microsoft access for database and we plan to use MS SQL server 7.0 (Thai Edition) for database server recently. Therefore the total investment cost is 931,650 Baht For estimated life in 2 yrs., the annual cost of option III is 546,475 Baht. The payback period (after taxes) for the proposed system is 4.66 years.

Cost Comparison between the Existing System and the Proposed System

Cost Comparison between the Existing System and the Proposed System

The table list of the exiting system and the proposed system cost in 5 years. This table shows that the proposed system costs less than the existing system before two years as show in the following table calculation and chart in figure 3.1:

Table 3.1.   Total Cost of the Exiting System.

Cash Flow Description	Year					
	0	1	2	3	4	5
I. Investment Cost	-	-	-	-	-	-
II. Implementation Cost + Maintenance 5%	13,000	13,650	14,333	15,049	15,802	16,592
III. Programmer (4) + Analysis (1) 7-10 %	936,000	1,029.6000	1,132,560	1,245,816	1,370,398	1,507,437
IV. Operating Cost 5%	73,550	77,228	81,089	85,143	89,400	93,870
Total Cost (Baht)	1,022,550	1,120,478	1,227,981	1,346,008	1,475,600	1,617,900
Cumulative Cost (Baht)	1,022,550	2,143,028	3,371,009	4,717,017	6,192,617	7,810,517

Table 3.2.   Total Cost of the Proposed System.

Cash Flow Description	Year					
	0	1	2	3	4	5
I. Investment Cost	931,650	-	-	-	-	-
II. Implementation Cost + Maintenance 5%	13,000	13,650	14,333	15,049	15,802	16,592
III. Programmer (2) + Analysis (1) 7-10 %	576,000	633,600	696,960	766,656	843,333	927,654
IV. Operating Cost 5%	74,150	77,858	81,750	85,838	90,130	94,636
Total Cost (Baht)	1,594,800	725,108	793,043	867,543	946,253	1,038,882
Cumulative Cost (Baht)	1,594,800	2,319,908	3,112,950	3,980,493	4,929,746	5,968,628

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When we compare in 3 options about the total investment cost, the annual cost and the payback period of these. We select option III which is the suitable option for the proposed system. The reasons are shown as following as :

1. Better time management (short time of payback period in option III)

2. Operation savings and Personnel savings (option III has the lowest investment cost and the lowest annual cost also)

3. Shorter the payback period, the less exposure

4. 3 years for GUI broadcast and IMF crisis situation ,therefore we will save overall cost as possible

Benefit Expected

The benefit from the proposed system will be as follows :

1. Provide timely / accurately

2. Reduce Manual Operation

3. Reduce Risk

4. Easy to control Centralized Database

5. Easy to maintenance

6. Security Control

7. Increase Productivity

8. Operating under Windows and Microsoft Network

9. To improve the quality, efficiency and effectiveness of Queue Tasks

10. Reduce the cost, reduce the loss and defect

11. Operation and Personnel savings

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12. Up to date database access ability

13. Easily calculating and adjust data

14. Management improvement

15. Providing better planning information, projections and forecasting for the top management level

16. Better time management

17. Increasing job satisfaction for employees by eliminating tedious tasks

Table 3.3.   Proposed System Comparison, in Baht.

	unit	price	OPTION I total	OPTION II total	OPTION III total
Investment Cost					
Hardware Cost - Estimated					
Compaq Proliant 2500	1	120,000	120,000	120,000	120,000
Genuine Intel	10	36,000	360,000	360,000	360,000
printer	1	52,000	52,000	52,000	52,000
printer	1	32,000	32,000	32,000	32,000
Network card	11	2,500	27,500	27,500	27,500
HUB	1	38,000	38,000	38,000	38,000
Total Hardware Cost			629,500	629,500	629,500
Software Cost - Estimated					
Microsoft Office	1	55,000	55,000	55,000	55,000
SQL V 6.5 - 25 Client	1	210,000	210,000		
Oracle [300 MHz]	1	420,000		420,000	
Seagate Crystal Report	1	30,000	30,000	30,000	30,000
Visual Basic	1	30,000	30,000	30,000	30,000
Application	1	100,000	100,000	100,000	100,000
Total Software Cost			425,000	635,000	215,000
Implementing Cost					
User Training			8,000	8,000	8,000
Site Preparation			5,000	5,000	5,000
Total Implemention Cost			13,000	13,000	13,000
Annual Operating Cost					
A4" paper	20	80	1,600	1,600	1,600
3.5" Diskette	5	450	2,250	2,250	2,250
Toner	2	2,650	5,300	5,300	5,300
Facilities			30,000	30,000	30,000
maintenance			35,000	35,000	35,000
Total Annual Operating Cost			74,150	74,150	74,150
Total Investment Cost			1,141,650	1,351,650	931,650
For Estimated life in 2 years					
Annual Cost			651,475	756,475	546,475
Payback Period [yrs.]			5.71	6.76	4.66

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Table 3.4.   Existing System Cost VS. Proposed System , in Baht.

Cost Item	Existing System	Proposed System		
		Option I	Option II	Option III
Hardware Cost	97,000	629,500	629,500	629,500
Software Cost	55,000	425,000	635,000	215,000
Implementing Cost	13,000	13,000	13,000	13,000
Annual Operating Cost	73,550	74,150	74,150	74,150
Investment Cost	238,550	1,141,650	1,351,650	931,650
Annual Cost	199,325	651,475	756,475	546,475
Payback Period (yrs.)	4.63	5.71	6.76	4.66

Break Even Analysis

Amount of Cost item, in Bath.

Legend:
— Existing System
— Proposed System opt. I
— Proposed System opt. II
— Proposed System opt. III

A : Hardware Cost - Estimated   B : Software Cost - Estimated   C : Implementing Cost   D : Annual Operating Cost

E : Investment Cost   F : Annual Cost   G : Payback Period [yrs.]
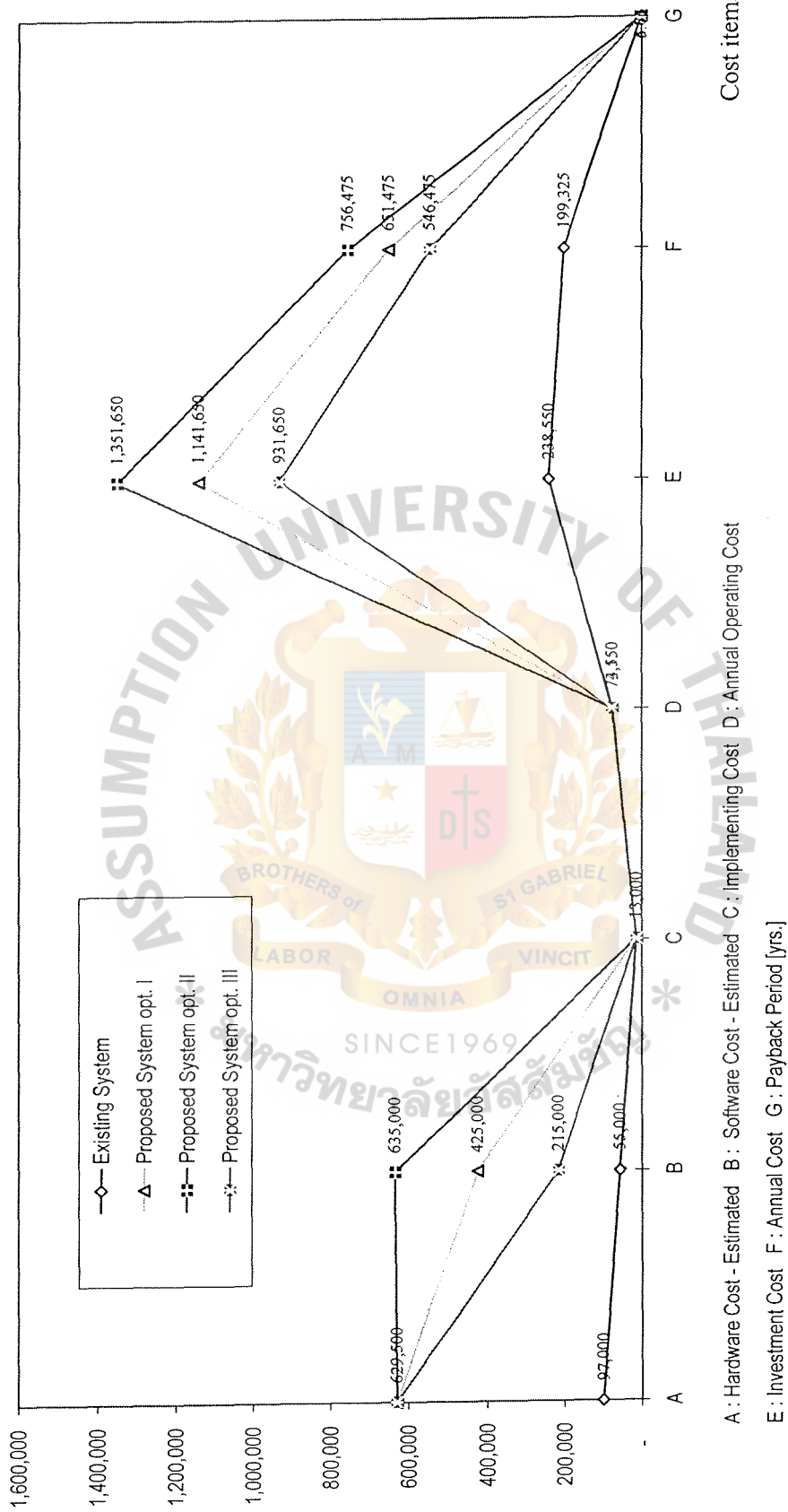
Figure 3.2.   Break Even Analysis.

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Table 3.5   The Existing System Cost VS. Proposed System Cost Comparison, in Baht.

Cost items Year	0	1	2	3	4	5
Cumulative Cost of The Existing System	1,022,550	2,143,028	3,371,009	4,717,017	6,192,617	7,810,517
Cumulative Cost of The Proposed System	1,594,800	2,319,908	3,112,950	3,980,493	4,929,746	5,968,628

Figure 3.3..   Break-even Point Chart.

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IV. PROJECT IMPLEMENTATION

The implementation begins after management has accepted the new proposed system. It consists of the installation of the new system and the removal of the current system. It involves hardware, software and peopleware.
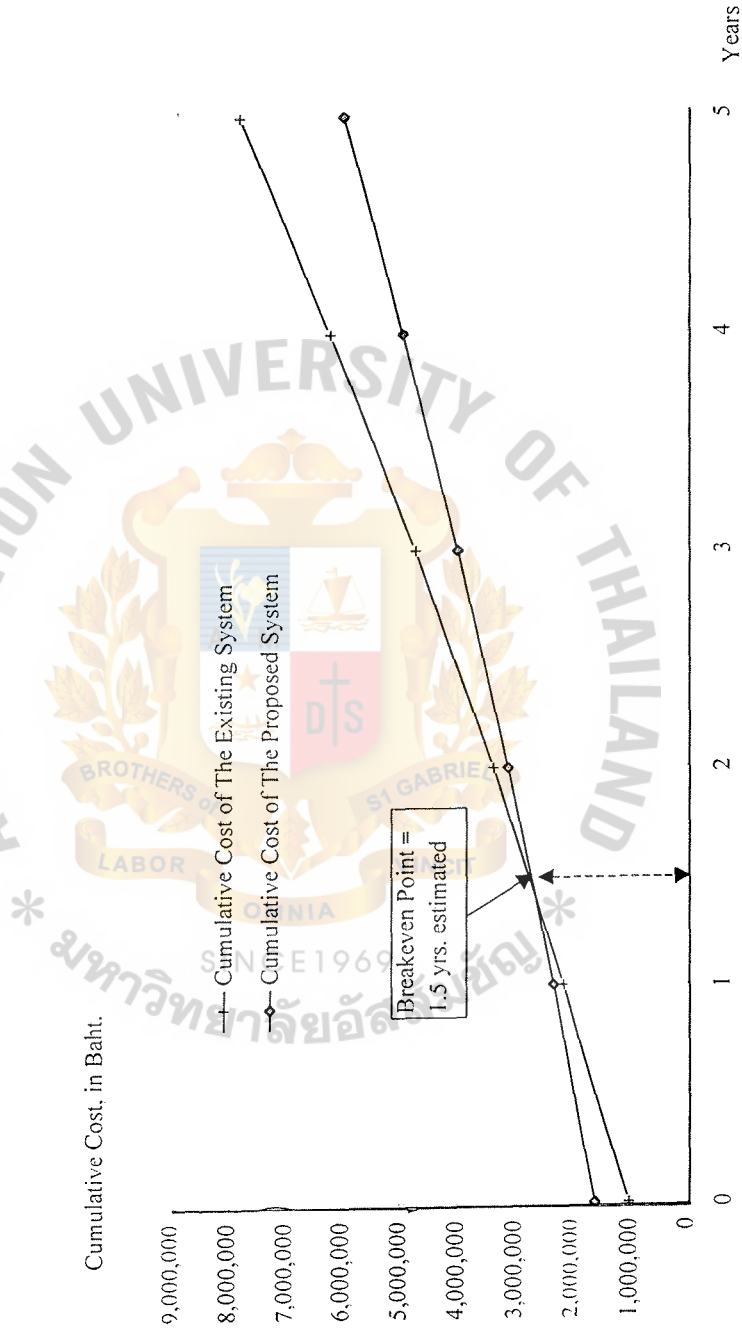
4.1   Program Implementation

The implementation of program application can be divided into 3 phases : Program Coding, testing and maintenance

Program Coding

Coding is the main point at which the application programs are written to operate whatever business functions are being computerized. For the Information of Broadcast [QAS] , using the Visual Basic and Seagate Crystal Report Pro as application generator.

Program Testing

It involves testing of the program, system test and the documentation of the program.

Program Maintenance

Backup and recovery process, training include hardware and software maintenance are the program maintenance.

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4.2   Training and System Maintenance

Training

A well-designed training program can help overcome staff anxiety and potential resistance to change and make the difference between a successful and unsuccessful system implementation.

Most user training deals with the operation of the systems itself. Training in data coding emphasizes the methods to be followed in capturing data from transactions or preparing data needed for decision support activities.

The manual is the one of the way for supporting the user in training. It divides into 2 section. The system manual is for the system admin and the user manual is for the user.

System Maintenance

The technical staff will need to be devoted to maintenance activities once several systems are in the operation. In addition to providing quick-response maintenance, system designer must develop emergency back up procedures to be followed any time operational systems are down for any reason. These backup procedures should be very careful and staff must be well trained in their use also.

V. CONCLUSIONS AND RECOMMENDATIONS

5.1 Conclusions

Nowadays, Television Broadcasted Business is expanding rapidly and GUI is the new option for the new generation or the one's who has the broad vision . GUI television is a new colored television channel, not a cable television, and it does not require any membership subscription fee. GUI's visionary determination is to present news and information to the public in a straightforward aspects without distortion of facts. People will receive accurate news and information including documentaries, edu-tainment, and quality entertainment. GUI, will continually improve and develop the quality of life of Thai people across the country.

The Information of Broadcast (IOB) computerized is required for efficient administrating this resources. The application of proposed computerized system can prove to be the best solution of current problem which are redundancy documents, loss documents on the way, forgetting in On-Air confirm and et cetera (etc.).

It run under Windows 95 on Microsoft Network and use our on-line centralized database . All the information will be shared data by using LAN system. The benefit, we will expect as, eliminate time and redundancy operation, Flexibility of using and easily maintenance.

The cost analysis show that the cost of computerized system is a bit higher, it will be break-even in the near future due to requirement for hiring more staff if using the existing system. There are 3 options about the total investment cost, the annual cost and the payback period of the cost of the computerized system. Shorter the payback period,

the exposure will less include the IMF crisis situation occurs therefore we select option III which is the suitable option for the proposed system.

For security controls, we plan to control by Physical Security and Logical Security. Discretionary Security Protection System is the one of the Physical Security and Password Protection is the one of the Logical Security also.

In summary, the implementation of the developed system reveals that aimed objectives are achieved. The proposed computer-based system supports not only the operational functions but the management function also. Thus, it enhances the firm's efficiency and productiveness that increases potential to compete with competitors.

Degree of Achievement of the Proposed System Compare with the Existing System. Table 5.1 shows the time spent on each process of the Information of Broadcast (IOB) compared with the Existing System. It shows that each process of the Proposed System spends less time than each process of the Existing System, which has to pass many manual work steps. This showed that the Proposed System is more efficient and effective than the Existing System.

Table 5.1   Degree of Achievement between the Proposed System and Existing System.

Process	Proposed System (Time Spent)	Existing System (Time Spent)
Application Process	1 hrs.	1 hrs.
Inquiry Process	10 mins.	10 mins.
Payment Process	10 mins.	15 mins.
Modification Process	15 mins.	20 mins.
Printing Process	3 mins.	5 mins.
Total	1 hrs.	1 hrs. 50 mins.

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5.2 Recommendations

Queue section is the one of the Program division who seen as a cost center supporting information to other divisions. It is also a backbone of the company's business especially in the field of television broadcast. And since some of manual operations of the current system causes problem in On-Air Broadcast and delay customer payment, the computer information system is suggested to solve the problem.

The implementation of the project development is the conversion of the design to an operating system which requires carefully planning and control. Training is another important thing to concern with because this will help employees understand the proposed system better and know how to use it and learn how it can provide benefits to them. If the employees know how the proposed system can help them in working more smoothly and more efficiently, they will be eager to learn and apply the new modern technology in their daily working life.

For the Information of Broadcast (IOB), it is possible to share on-line centralized databases to overall division. And we plan to use the intranet technology to support it. For preparing invoice, we will keep overall detail record of the customer. For maintain data, the user can backup data in ranging time and can repair data by himself if the database errors occurs.

If the executive wants to see the upon-request information such as Executive Information System (EIS), he can view and select the useful information to help in decision making.

APPENDIX   A

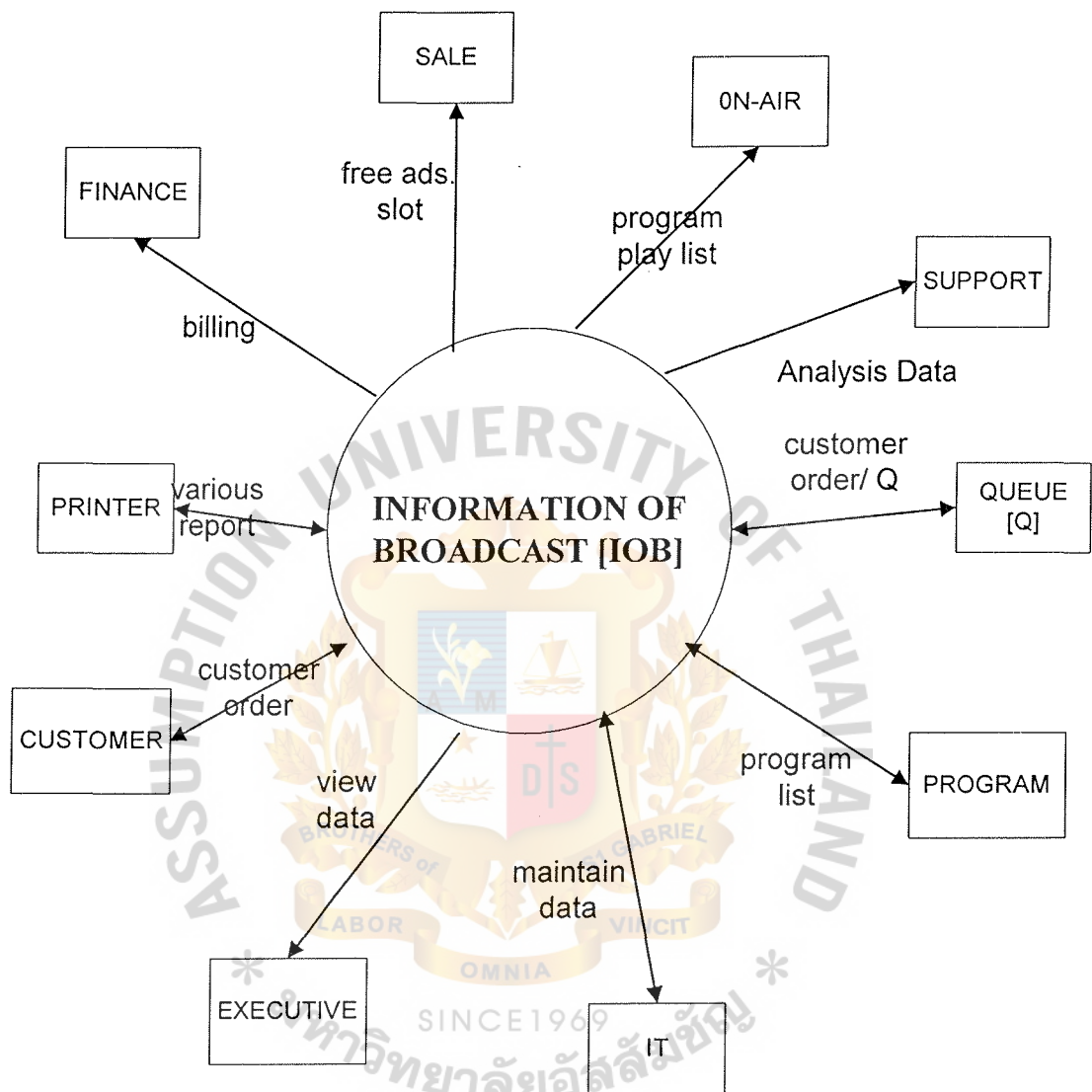CONTEXT & DATA FLOW DIAGRAM

Figure A.1. Context Diagram for Existing System.
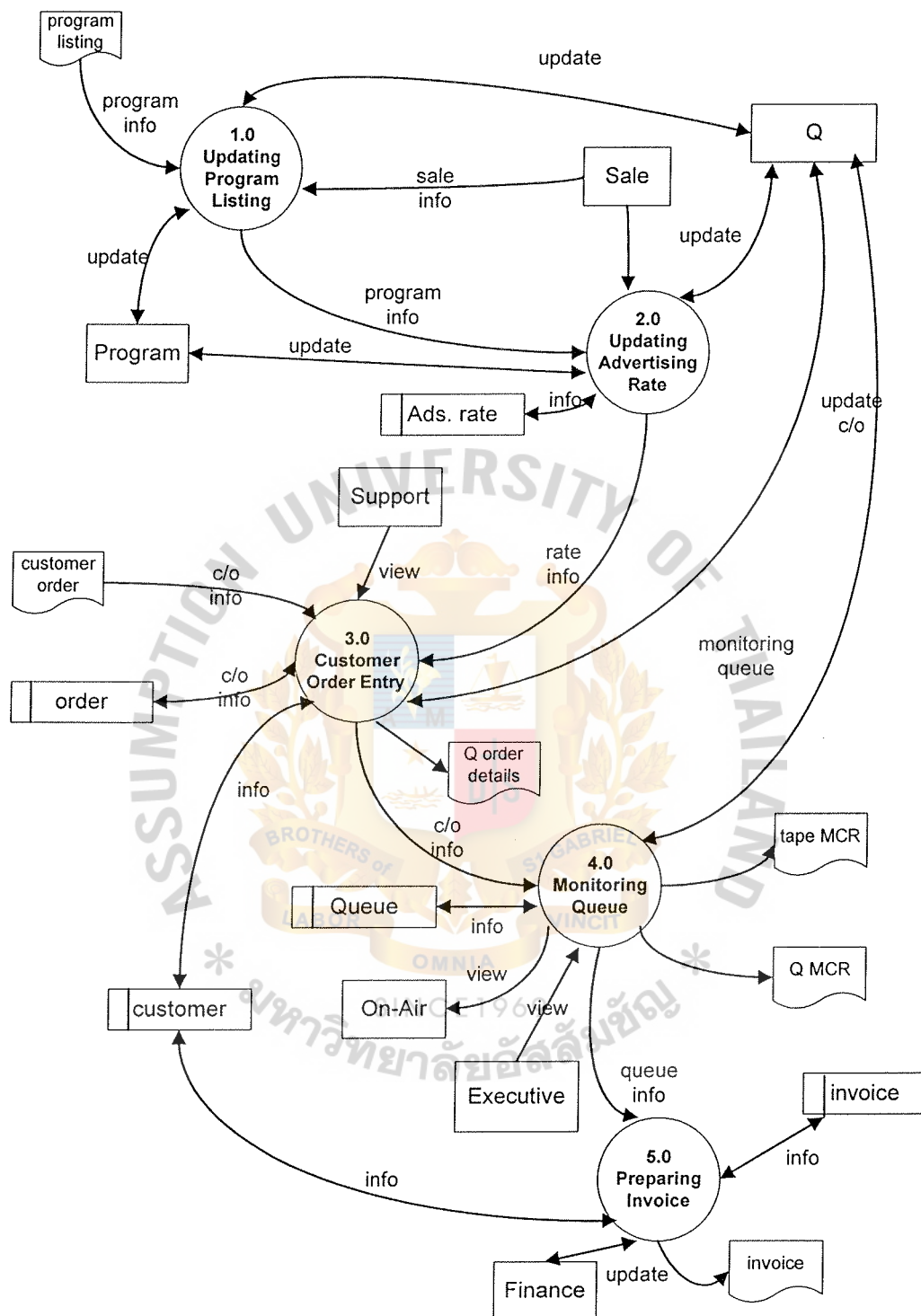
Figure A.2. DFD Level 0 for Existing System.
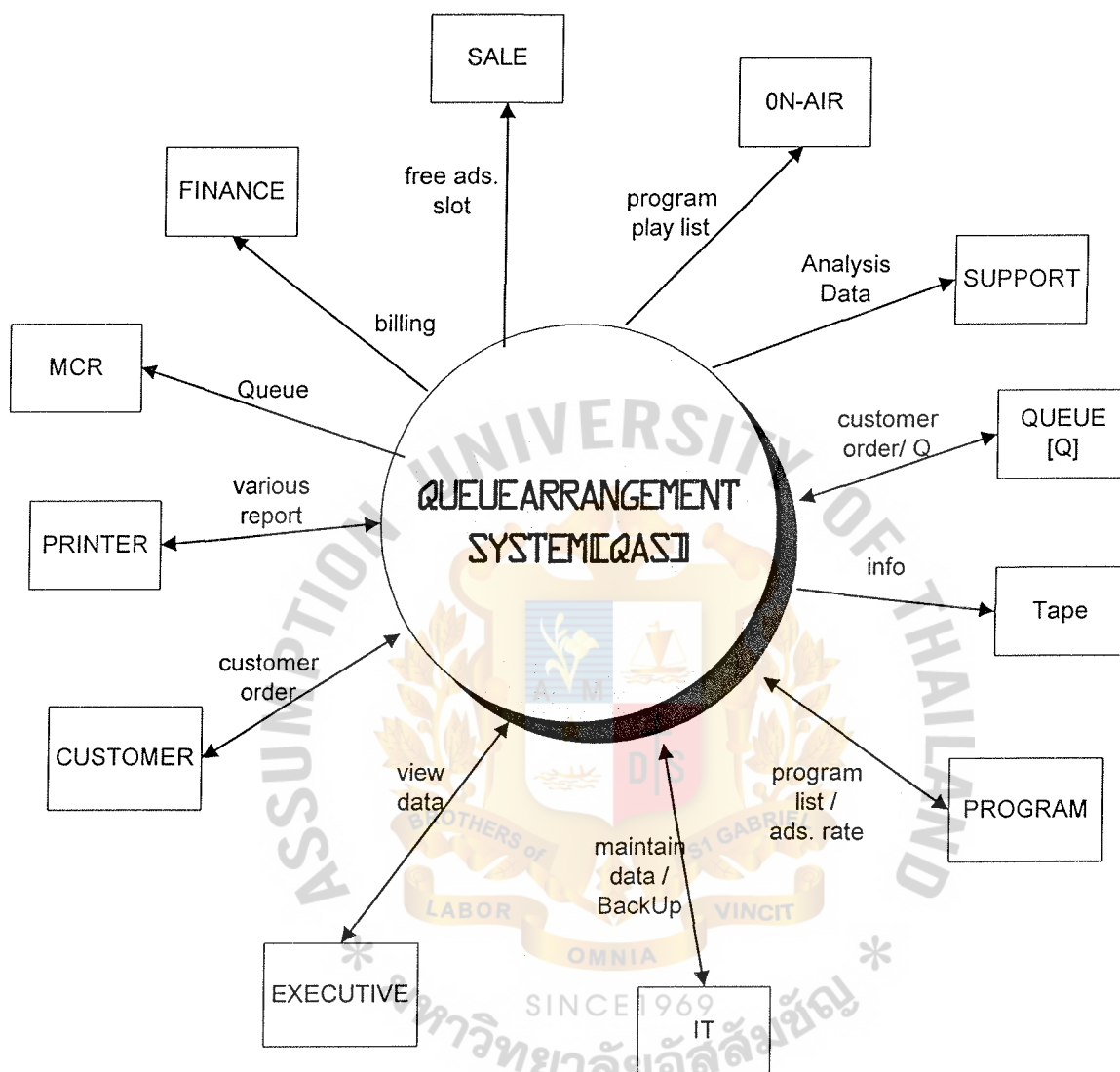
Context Diagram of Queue Arrangement System [QAS]
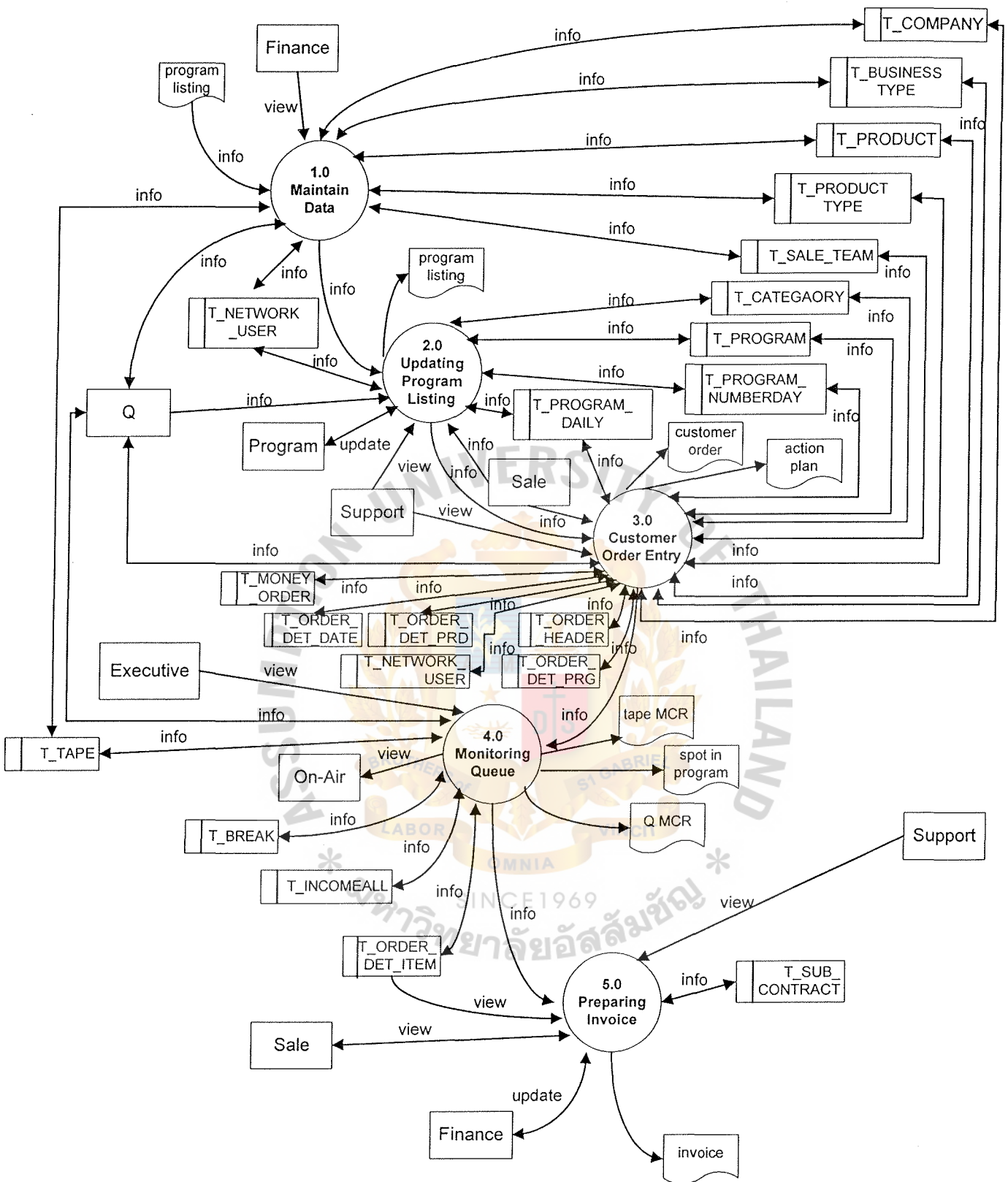
Level 0 of Queue Arrangement System [QAS]
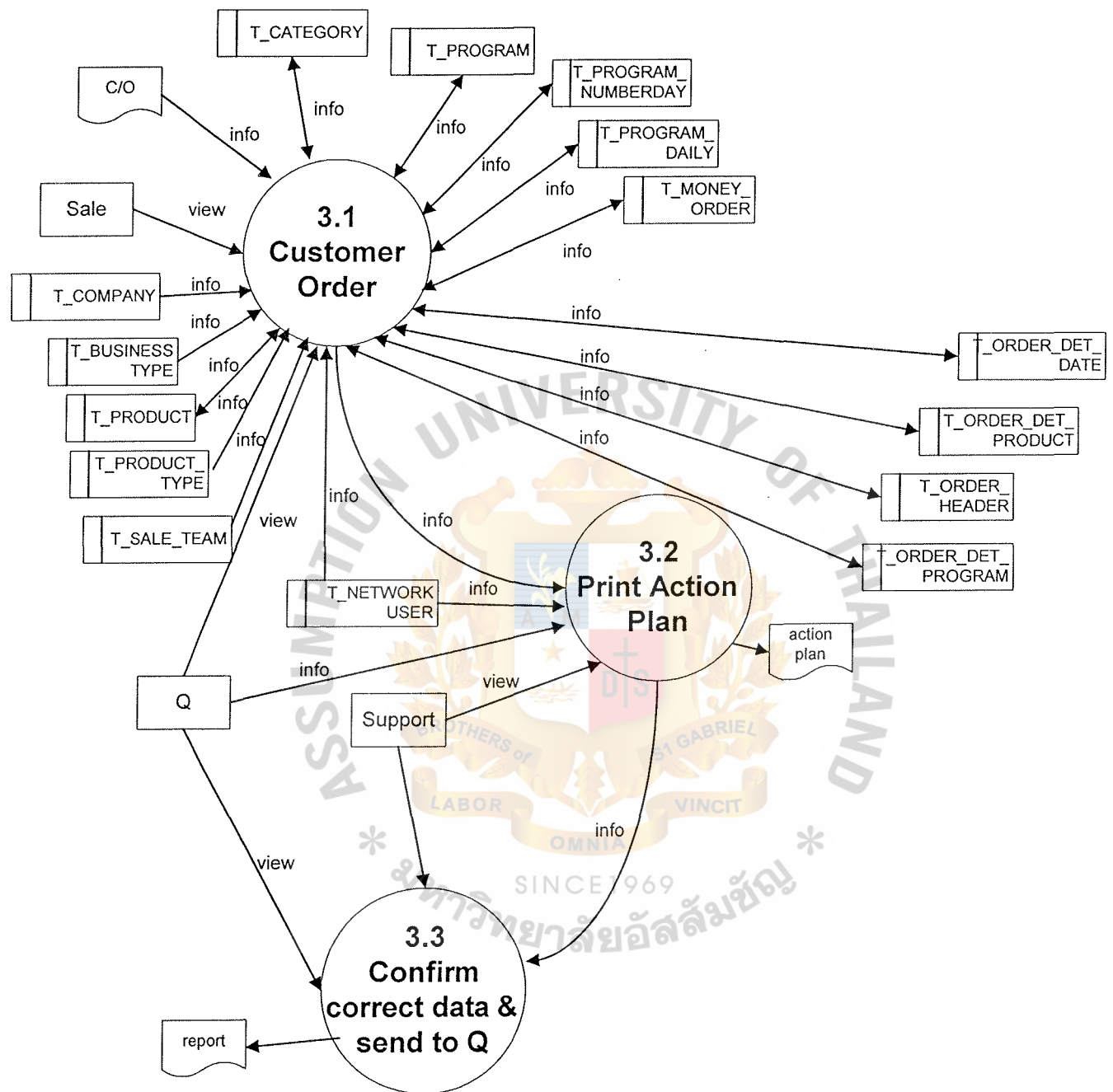
Level 1 of Process 3.0 Customer Order Entry
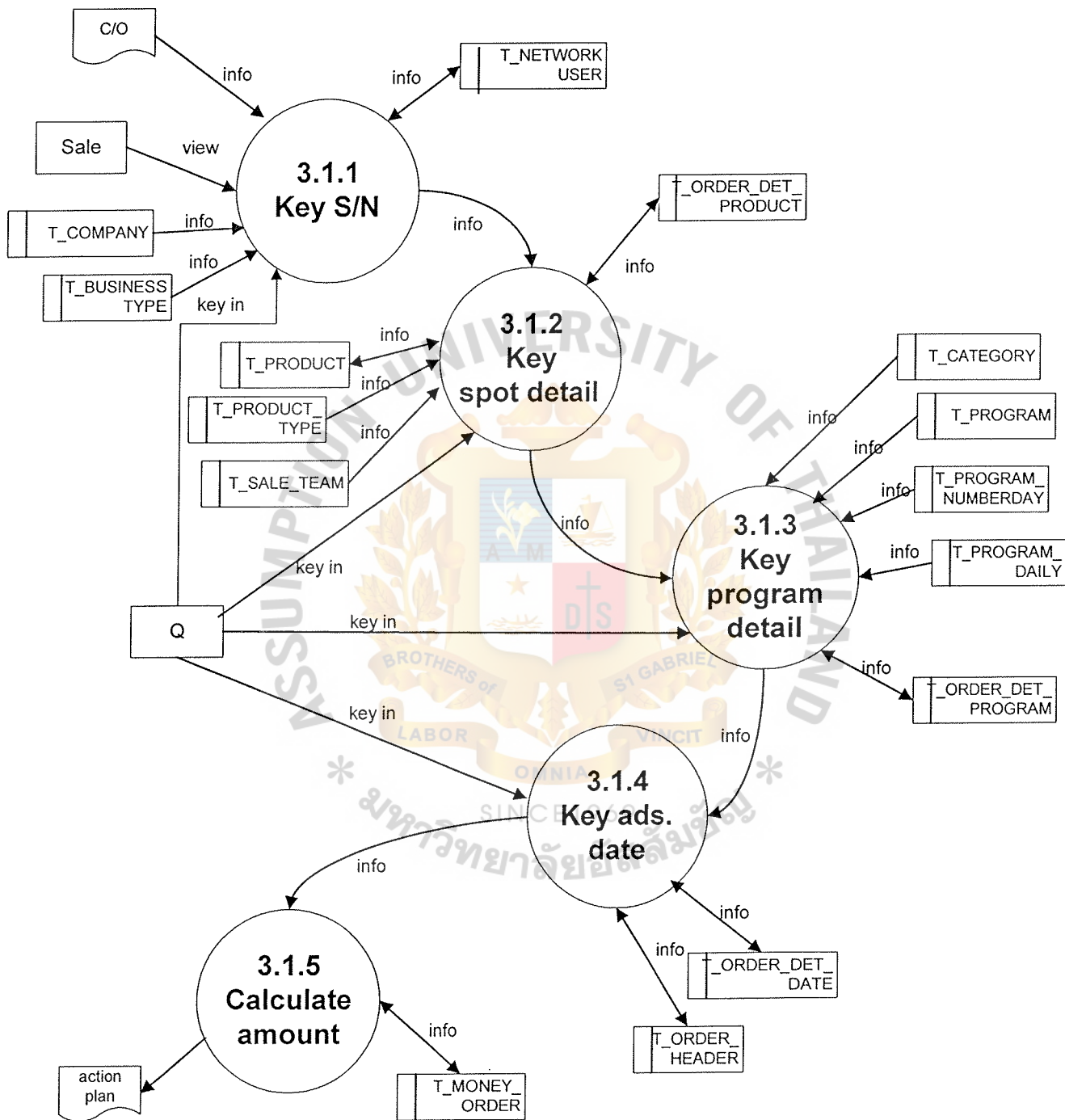
Level 2 of Process 3.1 Customer Order Entry
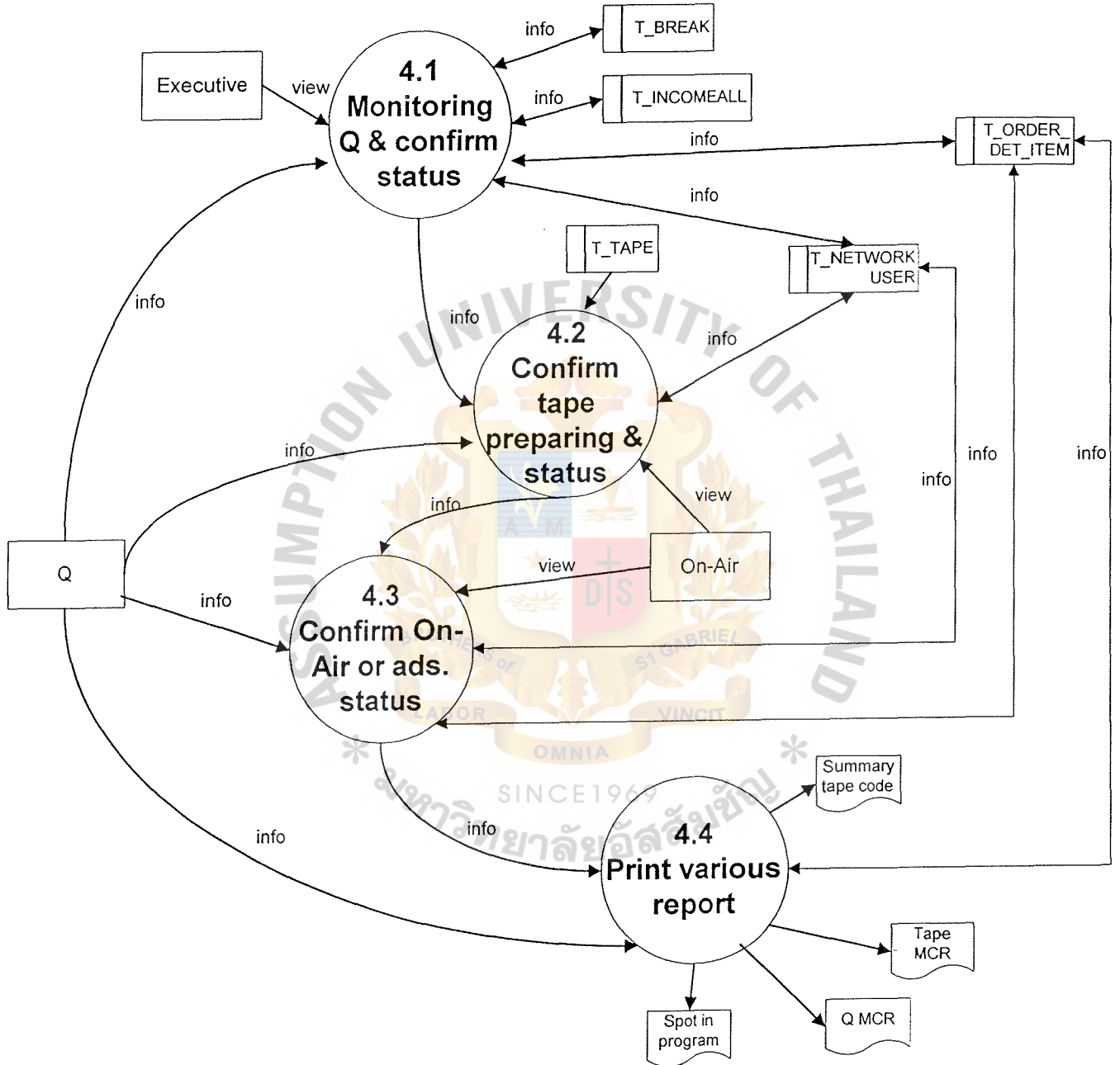
Level 1 of Process 4.0 Monitoring Queue

APPENDIX   B

MODULE SPECIFICATION

Module	:	Update Customer Information
Purpose	:	to update customer information
Uses	:	customer information
Return	:	customer data

begin

    Clear customer data

    Call get detail
    Call write new record

    repeat

    Until there are no more customer record

end

Module	:	Update Product Information
Purpose	:	to update product information
Uses	:	product information
Return	:	product data

begin

    Clear product data

    Call get detail
    Call write new record

    repeat

    Until there are no more product record

end

Module   :   Update Sale Information
Purpose   :   to update sale information
Uses   :   sale information
Return   :   sale data

begin

        Clear sale data

        Call get detail
        Call write new record

        repeat

        Until there are no more sale record

end

Module	:	Monitoring Q & Confirm status
Purpose	:	to verify Q for On-Air broadcast
Uses	:	customer order
		Action Plan
Return	:	Q MCR
		Q record

Functional details
1. Receive Action Plan
2. Check Q detail
3. Edit
4. Keep record
5. Preparing to MCR

Module	:	Customer Order Entry
Purpose	:	to launch C/O
Uses	:	C/O
		Program Information
		Product Information
		Sale Information
Return	:	Action Plan
		C/O Record

<u>Functional details</u>
1. Receive C/O
2. Check C/O detail
3. Print Action Plan
4. Confirm correct data
5. Keep C/O record
6. Prepare to Q
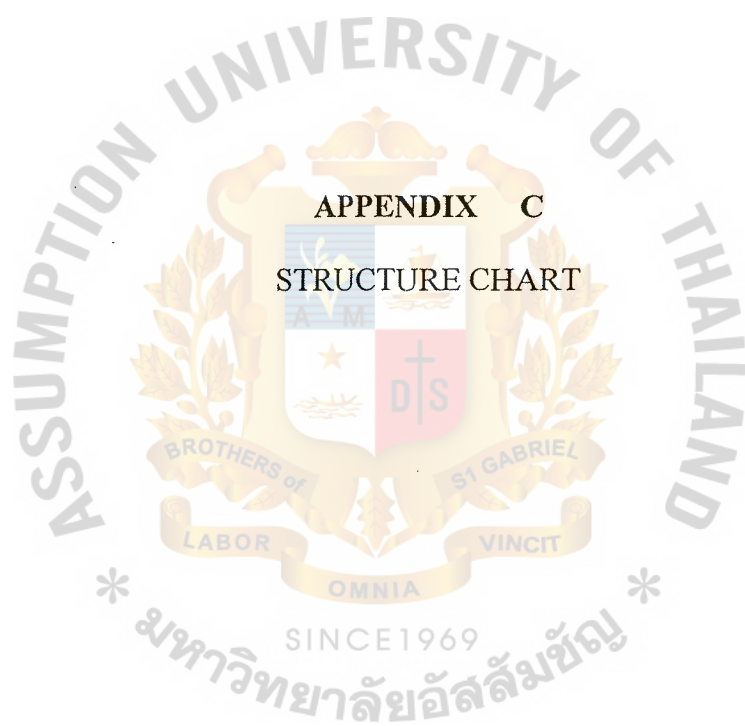
APPENDIX   C

STRUCTURE CHART
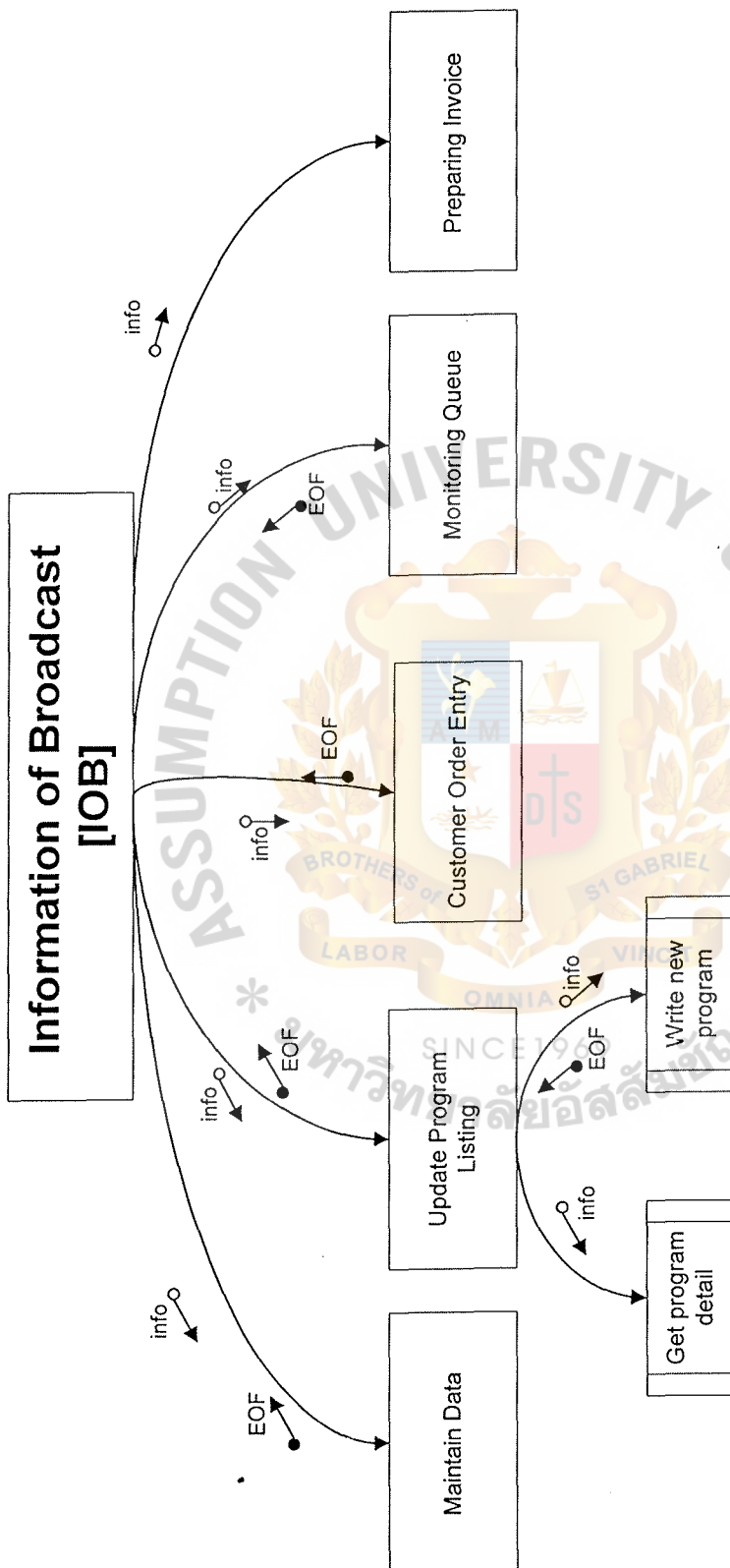
Figure C.1. Structure Chart of Information of Broadcast [IOB].

Figure C.2. Structure Chart of process 1 Maintain Data.

Figure C.3.   Structure Chart of process 1.2 Update Product Information.

Figure C.4. Structure Chart of process 3 Customer Order Entry.

Figure C.5. Structure Chart of process 4 Monitoring Queue.

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APPENDIX   D

DATA DICTIONARY

Table D.1   :   Break Table
FILE NAME :   T_BREAK

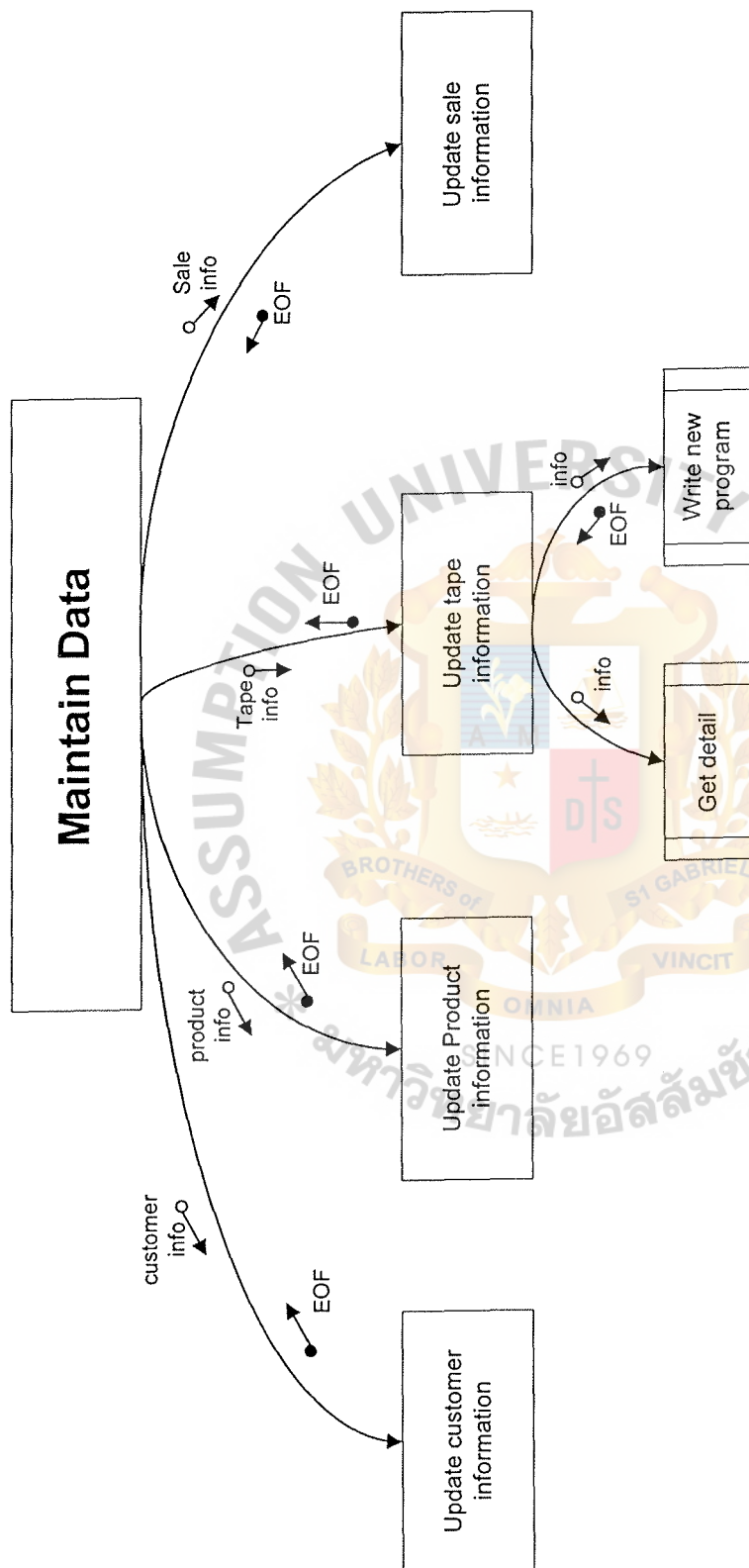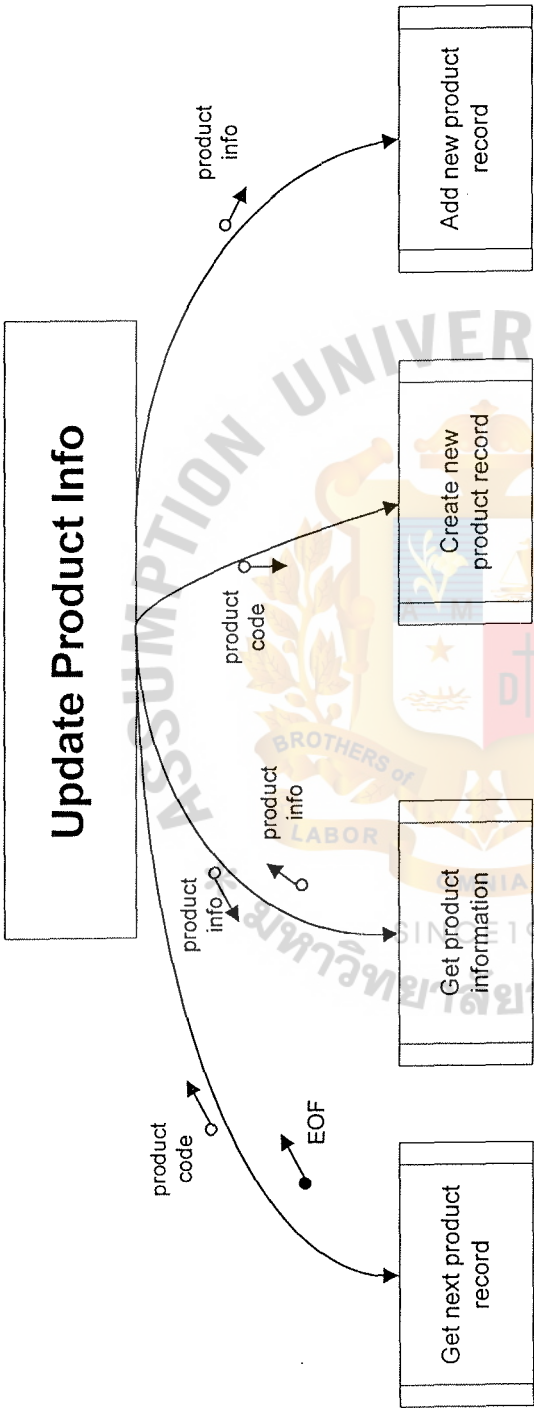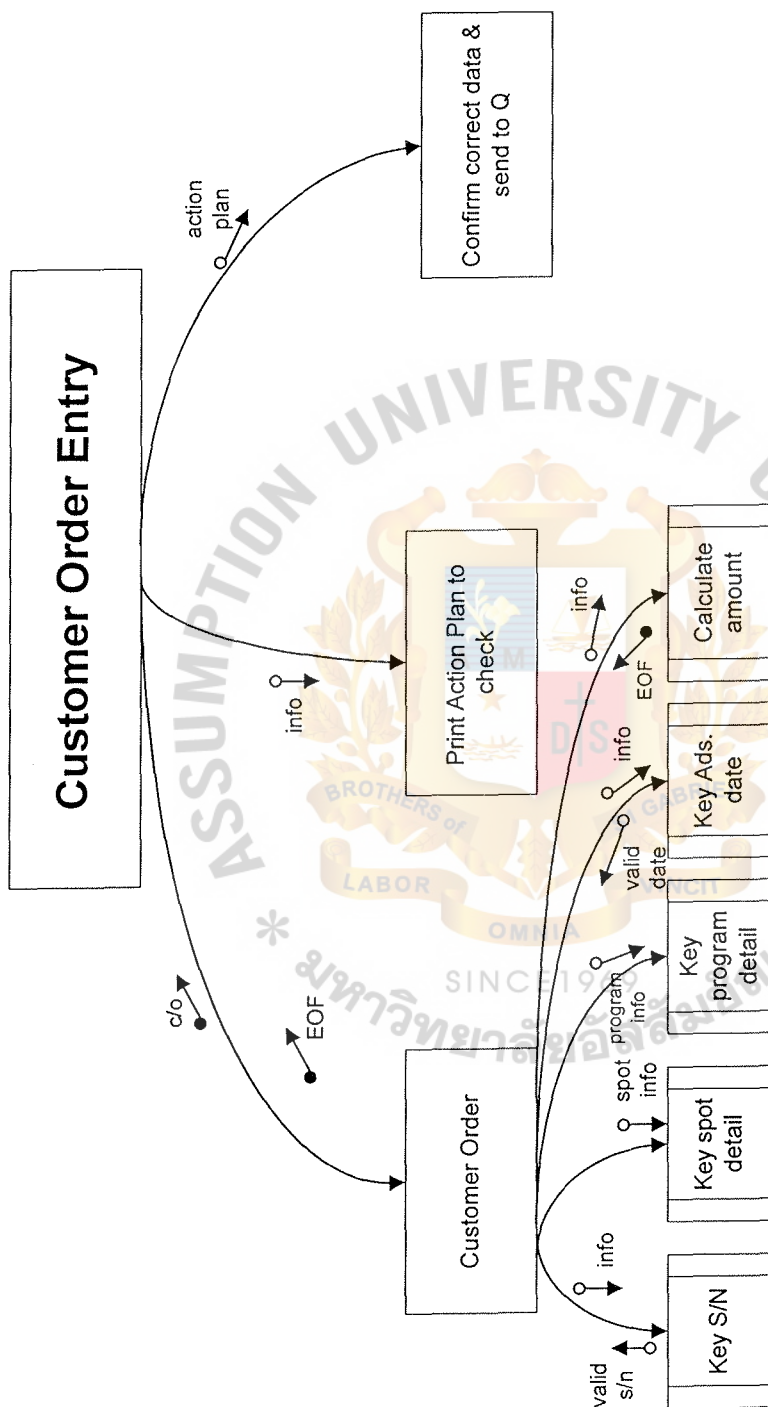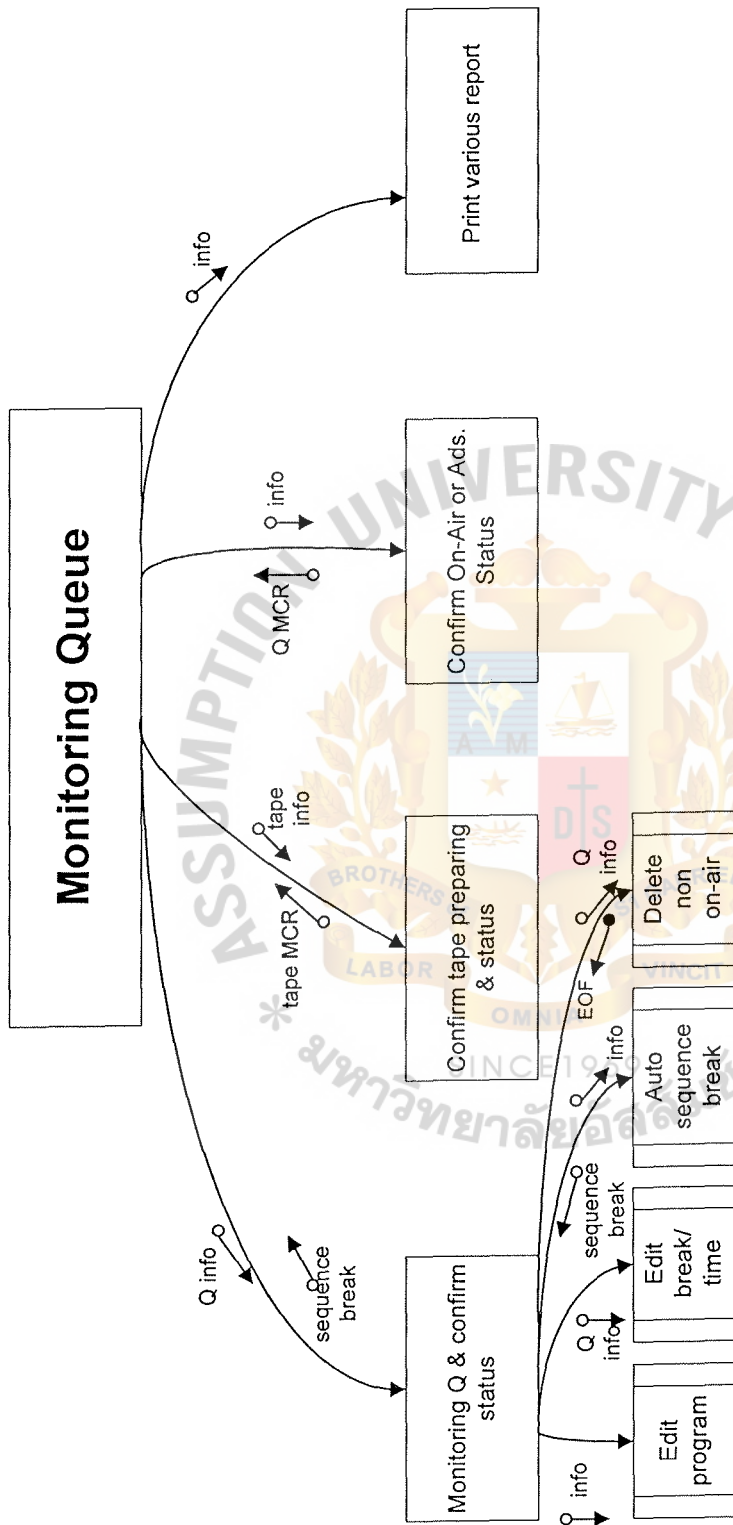| Field Name	Description	Type	Width / Format	Index
BRK_DATE	date break	Date/Time	8	N
BRK_PROGRAM	program id. - keyfield	Text	5	N
BRK_BREAK	break no. - keyfield	Number	Integer	N
BRK_FACTS	link position from T_Programme - keyfield	Number	Integer	N
BRK_TIME_SEC	second time amount	Number	Integer	N
BRK_DATE_ONAIR	on-air date	Date/Time	Short date	N
BRK_MCR_TEXT	MCR text	Text	50	N

Table D.2   :   Business Type Table
FILE NAME :   T_BUSINESS_TYPE

Field Name	Description	Type	Width / Format	Index
BST_CODE	business type code - keyfield	Number	Integer	Y
BST_DESC	description	Text	50	N

Table D.3   :   Category Table
FILE NAME :   T_CATEGORY

Field Name	Description	Type	Width / Format	Index
CATE_CATEGORY_ID	catecory id. - keyfield	Text	3	Y
CATE_CATEGORY_NAME	category name	Text	50	N
CATE_CATEGORY_NAMET	category name	Text	50	N

Table D.4   :   Customer Table
FILE NAME :   T_COMPANY

Field Name	Description	Type	Width / Format	Index
CMP_CODE	company code - keyfield	Text	5	Y
CMP_CUSTOMER_DATE	be ITV customer date	Date/Time	8	N
CMP_NAME	company name	Text	100	N
CMP_ADDRESS	company address	Text	255	N
CMP_TELEPHONE	company tel	Text	50	N
CMP_FAX	company fax	Text	10	N
CMP_BILLING	overall billing	Currency	Currency	N
CMP_BILLING_FOR_ITV	ITV total billing	Currency	Currency	N
CMP_KEY_MAN	contact name	Text	50	N
CMP_KEY_MAN_TELEPHONE	tel of contact name	Text	50	N
CMP_BUSINESS_TYPE	business type id	Number	Integer	N
CMP_DISCOUNT	company discount	Number	Long Integer	N
CMP_CREDIT	credit day	Number	Long Integer	N
CMP_CUSTOMER_TYPE	customer type	Text	1	N
CMP_GRADE	customer grade	Text	1	N
CMP_BILL_DATE	billing date	Text	50	N
CMP_BILL_TIME	billing time	Text	20	N

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Table D.5 : Income Table
FILE NAME : T_INCOMEALL

Field Name	Description	Type	Width / Format	Index
NO	record no. - keyfield	Number	Long Integer	Y
INCOMEDATE	date of income	Text	50	N
TMONEY	amount of money	Currency	Currency	N
DTMONEY	amount of discount	Currency	Currency	N
TAMOUNT	total amount	Currency	Currency	N
BMONEY	amount of barter	Currency	Currency	N
DBMONEY	amount of discount	Currency	Currency	N
BAMOUNT	total amount	Currency	Currency	N
FMONEY	amount of free	Currency	Currency	N
AMOUNT	total amount	Currency	Currency	N
ONMONTH	month	Text	20	N

Table D.6 : MCR Table
FILE NAME : T_MCR

Field Name	Description	Type	Width / Format	Index
NO	record no. - keyfield	Number	Long Integer	N
MCRDATE	MCR date	Text	50	N
PRG_CODE	program code	Text	3	Y
PRG_NAME	program name	Text	250	N
PRG_TIME	programe time	Text	20	N
BRK	break	Text	5	N
RUN	run no.	Text	5	N
TAPE	tape no.	Text	10	N
PRD_NAME	product name	Text	250	N
PRD_TIME	product time- amount	Text	10	N
PRD_TYPE	product type	Text	10	N
PRD_SUM_TIME	amount time	Text	10	N
PRD_SUM_SUM_TIME	total amount time	Text	10	N

Table D.7 : Order Table
FILE NAME : T_MONEY_ORDER

Field Name	Description	Type	Width / Format	Index
Mnth	month - keyfield	Number	Long Integer	N
Yars	year	Number	Long Integer	N
Order	order	Text	20	N
Ncash	amount	Number	Double	N
NACash	amount afterdisc.	Number	Double	N
Nbarter	amount of barter	Number	Double	N
NABarter	amount afterdisc.	Number	Double	N
Free	amount of free	Number	Double	N
NCashNBarter	amount of cash and barter	Number	Double	N
NACashNABarter	amount of cash and barter	Number	Double	N
Pdate	program date	Date/Time	8	N
Ptime	program time	Date/Time	8	N

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Table D.8   :   Order Table
FILE NAME :   T_ORDER_DET_DATE

Field Name	Description	Type	Width / Format	Index
ORDT_ORDER	s/n of order - keyfield	Text	20	N
ORDT_PRODUCT	product id. - keyfield	Text	10	N
ORDT_PROGRAM	program code - keyfield	Text	10	N
ORDT_PROGRAM_DATE	program date - keyfield	Date/Time	short date	N
ORDT_DATE	on-air date - keyfield	Date/Time	short date	N

Table D.9   :   Monitoring Q Table
FILE NAME :   T_ORDER_DET_ITEM

Field Name	Description	Type	Width / Format	Index
ORIT_ORDER	s/n of order - keyfield	Text	20	N
ORIT_PRODUCT	product id. - keyfield	Text	10	N
ORIT_PROGRAM	program code - keyfield	Text	10	N
ORIT_PROGRAM_DATE	program date - keyfield	Date/Time	8	N
ORIT_DATE	on-air date - keyfield	Date/Time	8	N
ORIT_NO	spot no.	Number	Long Integer	N
ORIT_INVOICE	invoice no.	Text	20	N
ORIT_PRICE	price	Currency	Currency	N
ORIT_OWNER	owner name	Text	20	N
ORIT_TIME_STAMP	time	Date/Time	8	N
ORIT_STATUS	status	Number	1	N
ORIT_MCR_REMARK	MCR remark	Text	255	N
Q_RBREAKRUN	break run	Text	50	N
Q_BREAKNO	break no.	Number	Long Integer	N
Q_RUNNO	run no.	Number	Long Integer	N
Q_TYPE	q type	Text	1	N
Q_INVMY	date	Date/Time	8	N
Q_CHANGENO	change order no.	Text	100	N
Q_CHANGEREMARK	change remark	Text	200	N
Q_CONFIRMO	confirm order	Yes/No	Yes/No	N
Q_CONFIRMQ	confirm Q	Yes/No	Yes/No	N
Q_CONFIRMT	confirm tape	Yes/No	Yes/No	N
Q_CONFIRMA	confirm on-air	Yes/No	Yes/No	N
Q_REMARK	remark	Text	200	N
Q_DELETE	delete	Yes/No	Yes/No	N
Q_CHECK_SHOW	check	Yes/No	Yes/No	N
Q_TXT_PRICE	tax	Text	100	N
Q_DISCOUNT	discount	Number	4	N

Table D.10   :   Order Table
FILE NAME :   T_ORDER_DET_PRODUCT

Field Name	Description	Type	Width / Format	Index
ORPD_ORDER	s/n of order - keyfield	Text	20	N
ORPD_PRODUCT	product id. - keyfield	Text	10	N

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Table D.11 : Order Table
FILE NAME : T_ORDER_DET_PROGRAM

Field Name	Description	Type	Width / Format	Index
ORPG_ORDER	s/n of order - keyfield	Text	20	N
ORPG_PRODUCT	product id. - keyfield	Text	10	N
ORPG_PROGRAM	program code - keyfield	Text	10	N
ORPG_PROGRAM_DATE	program date - keyfield	Date/Time	short date	N
ORPG_NAME_TH	thai name	Text	50	N
ORPG_DAY	day	Text	7	N
ORPG_TIME_SEC	amount of time	Number	Integer	N
ORPG_PROGRAM_TIME	program time	Text	20	N
ORPG_PRICE_MINUTE	price per min	Currency	Currency	N
ORPG_SPECIAL_PROGRAM	special program	Yes/No	Yes/No	N

Table D.12 : Order Table
FILE NAME : T_ORDER_DET_HEADER

Field Name	Description	Type	Width / Format	Index
OrderNumber	s/n of order - keyfield	Text	20	Y
OrderDate	order date	Date/Time	8	N
OrderCustomerCode	company code	Text	6	Y
OrderCustomerName	customer name	Text	50	N
OrderCustomerTitle	customer title	Text	50	N
OrderSaleCode	sale code	Text	5	Y
OrderSaleTeamCode	sale team code	Text	5	Y
OrderAgreement	order agreement	Text	20	N
OrderVat	vat	Number	Integer	N
OrderDiscount1%	disc. 1	Number	Single	N
OrderDiscount2%	disc. 2	Number	Single	N
OrderDiscount3%	disc.3	Number	Single	N
OrderDiscountPrice	disc. Price	Currency	Currency	N
OrderForwardDue	forward due	Yes/No	Yes/No	N
OrderConfirm	order confirm	Yes/No	Yes/No	N
OrderRemark	remark	Text	255	N
LenProgramTB	program len	Number	Long Integer	N

Table D.13 : Product Table
FILE NAME : T_PRODUCT

Field Name	Description	Type	Width / Format	Index
PRD_CODE	product id. - keyfield	Text	10	Y
PRD_NAME	product name	Text	100	N
PRD_DATE	product date	Date/Time	8	N
PRD_TIME_SEC	amount time	Number	Integer	N
PRD_TYPE_CODE	type code	Number	Integer	N
PRD_CUSTCODE	customer code	Text	4	Y
PRD_PRODUCER	producer	Text	200	N
PRD_TAPE_CODE	tape code	Text	15	Y
PRD_RECEIVE_TAPE	recevie tape already	Yes/No	Yes/No	N
PRD_RECEIVE_DATE	receive date	Date/Time	8	N
PRD_RETURN_TAPE	return tape date	Date/Time	8	N
PRD_REMARK	remark	Text	255	N

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Table D.14　　:　　Product Type Table

FILE NAME :　　T_PRODUCT_TYPE

Field Name	Description	Type	Width / Format	Index
PDT_CODE	record no. - keyfield	Number	Integer	Y
PDT_DESC	description	Text	255	N

Table D.15　　:　　Program Table

FILE NAME :　　T_PROGRAM

Field Name	Description	Type	Width / Format	Index
PRG_DATE	program date	Date/Time	8	N
PRG_CODE	program code - keyfield	Text	5	Y
PRG_NAME_TH	program name in thai	Text	50	N
PRG_NAME_EN	english in program	Text	50	N
PRG_DAY	day	Text	7	N
PRG_TIME_START	time start	Date/Time	8	N
PRG_TIME_END	time end	Date/Time	8	N
PRG_PRICE	price	Currency	Currency	N
PRG_BREAK_TOTAL	total break	Number	Integer	N
PRG_TIME_TOTAL	total time	Number	Integer	N
PRG_TIME_ITV	ITV time	Number	Long Integer	N
PRG_TIME_COMPANY	company time	Number	Long Integer	N
PRG_CLASS_PERCENT	percent	Number	Single	N
PRG_CLASS_COMPANY	company class	Number	Long Integer	N
PRG_DATE_START	date start	Date/Time	8	N
PRG_DATE_END	date end	Date/Time	8	N
PRG_SPECIAL_PROGRAM	special program	Yes/No	Yes/No	N
PRG_RERUN	rerun	Yes/No	Yes/No	N
PRG_FACTS	fact	Number	Integer	N
PRG_REMARKS	remark	Text	255	N
PRG_CODE_PROGRAM	code program	Text	50	N
PRG_STYLE_CODE	style code	Text	5	Y
PRG_ABORT	abort	Yes/No	Yes/No	N

Table D.16 : Program Table

FILE NAME : T_PROGRAM_NUMBERDAY

Field Name	Description	Type	Width / Format	Index
ORIT_PROGRAM	program code - keyfield	Text	10	N
MnthsYears	month+year	Text	255	N
NUMBERDAY	number of day	Number	Long Integer	Y

Table D.17 : Program Daily Table

FILE NAME : T_PROGRAM_DAILY

Field Name	Description	Type	Width / Format	Index
PRG_DATE	program date	Date/Time	8	N
PRG_TIME_PLAN	time plan	Text	10	N
PRG_TIME_ONAIR	onair time	Text	10	N
PRG_CODE	program code	Text	5	Y
PRG_NAME_THAI	name in thai	Text	200	N
PRG_EPISODE	episode	Text	200	N
PRG_EPISODE_NO	episode no.	Text	10	N
PRG_TAPE_LEN	len of tape	Text	20	N
PRG_SPOT_COMM	spot com	Number	Long Integer	N
PRG_SPOT_PROMOTE	spot promote	Number	Long Ineger	N
PRG_SPOT_COMM_TEXT	text	Text	10	N
PRG_SPOT_PROMOTE_LEN	len of promote	Text	10	N
PRG_SOUND	sound	Text	100	N
PRG_REMARK	remark	Text	255	N

Table D.18 : Sale Table

FILE NAME : T_SALE_TEAM

Field Name	Description	Type	Width / Format	Index
TEM_CODE	sale team code	Text	5	Y
TEM_LEADER_NAME	leader name	Text	50	N
TEM_LEADER_SURNAME	leader surname	Text	50	N
TEM_TITLE	title	Text	50	N
TEM_DESCRIPTION	desc.	Memo	200	N

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Table D.19 : Contract Agreemant Table

FILE NAME : T_SUB_CONTRACT

Field Name	Description	Type	Width / Format	Index
SCON_AGMMAIN	main agreement no.	Text	20	Y
SCON_AGMSUB	sub agreement no.	Text	20	Y
SCON_DATE	agreement date	Date/Time	8	N
SCON_START	date start	Date/Time	8	N
SCON_END	date end	Date/Time	8	N
SCON_MONEY	amount	Currency	Currency	N
SCON_DISC	disc.	Currency	Currency	N
SCON_TYPE	type	Text	25	N
SCON_NUMBER	no. of onair time	Number	Integer	N

Table D.20 : Tape Table

FILE NAME : T_TAPE

Field Name	Description	Type	Width / Format	Index
TAPECODE	tape code	Text	6	Y
TAPENAME	tape na,e	Text	200	N
TAPELEN	len	Number	Long Integer	N
TAPEGDATE	date	Text	50	N
TAPERDATE	date	Text	50	N
TAPESDATE	date	Text	50	N
TAPEMDATE	date	Text	50	N
TAPESTATUS	status	Text	200	N
REMARKS	remark	Text	200	N

Table D.21 : Network User Table

FILE NAME : T_NETWORK_USER

Field Name	Description	Type	Width / Format	Index
NO	record no. - keyfield	AutoNumber	Long Integer	Y
User	user name	Text	20	N
Password	user password	Text	20	N
Section	section	Number	Long Integer	N
Details	detail	Text	200	N
Work	active	Yes/No	Yes/No	N
InDate	date in	Date/Time	8	N
InTime	time in	Date/Time	8	N
OutDate	date out	Date/Time	8	N
OutTime	time out	Date/Time	8	N

APPENDIX   E

SCREEN DESIGN
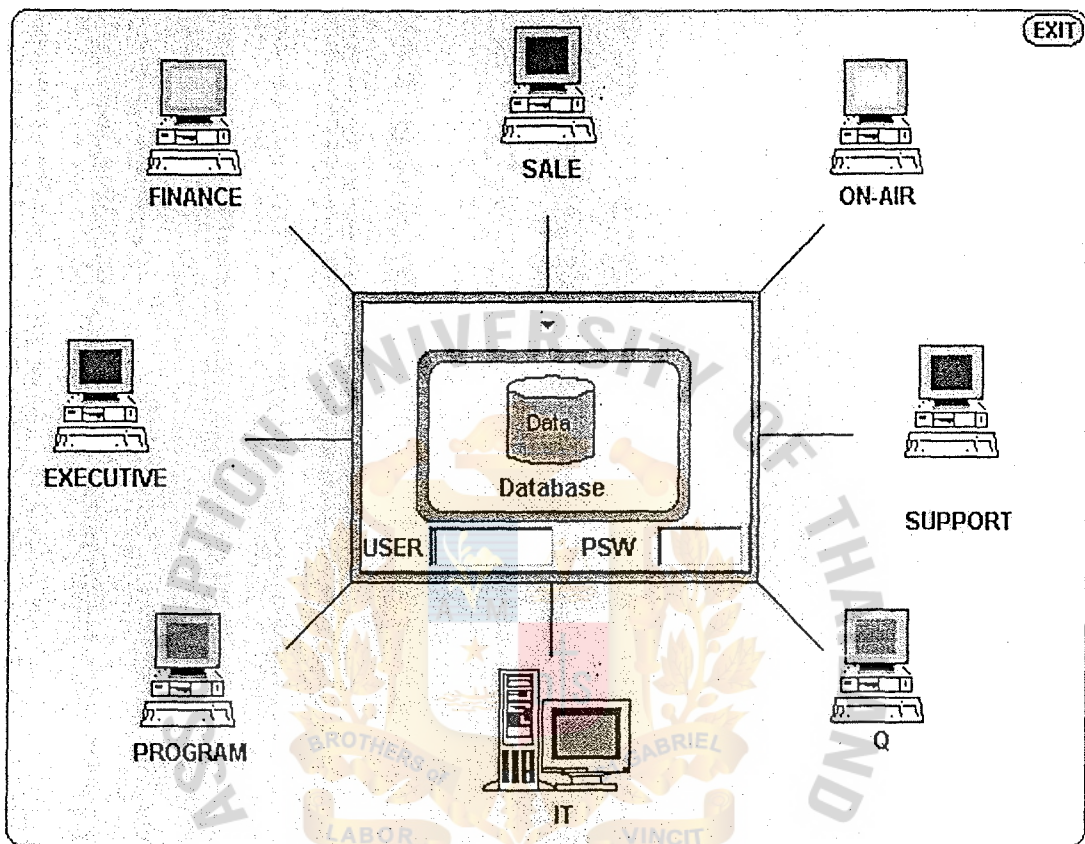
Figure E.1.   Log In Screen.
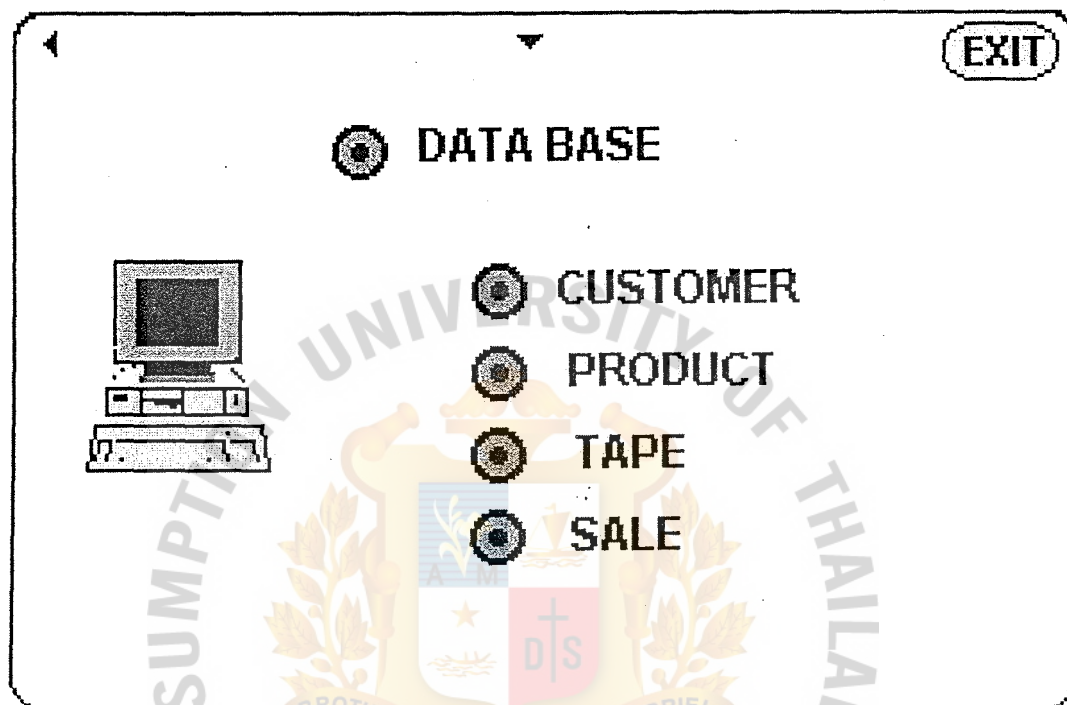
Figure E.2.   DataBase Information Screen.

Figure E.3.   Customer Information Screen.

Figure E.4. Product Information Screen.

PROGRAM LISTING

CUSTOMER ORDER ENTRY

TAPE SPOT

MONITORING Q

CONFIRM ON-AIR

PRINT ACTION PLAN

DATABASE

EXIT
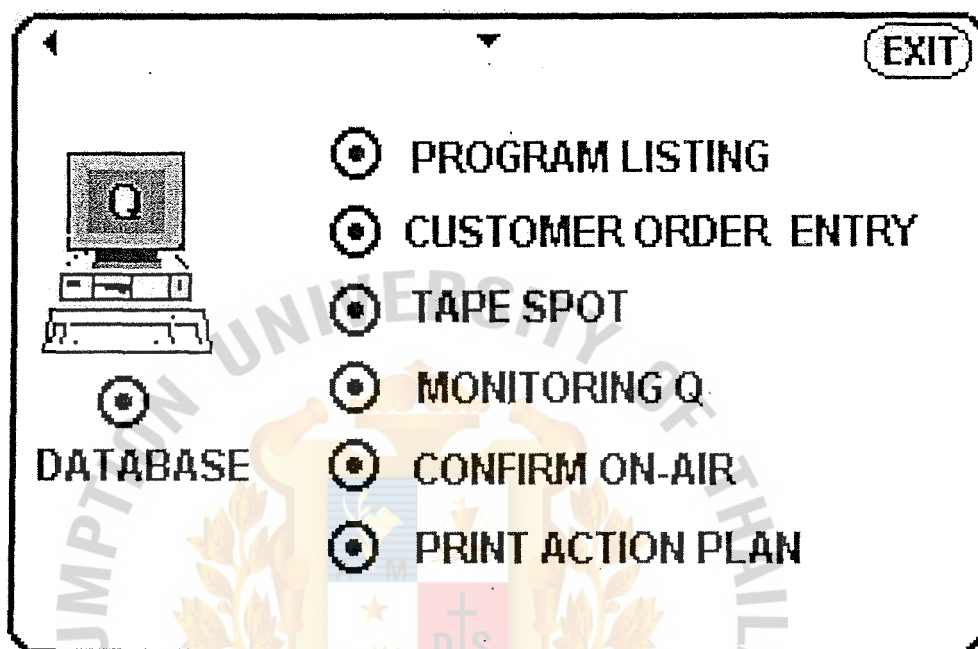
Figure E.5.   Queue User Screen.

			On Air											
►	156	MIDNIGHT NEWS [M-F]	12345	00:00	00:30	฿30,000.00	3	300	300	0	100	0	1/10/98	31/10/99
	198	MIDNIGHT NEWS	67	00:00	00:30	฿30,000.00	3	300	300	0	100	0	1/10/98	31/10/99
	489	MTV UNPLUGGED	6	00:30	01:30	฿0.00	4	600	600	0	100	0	1/6/99	31/12/99
	157	ITV TALK / FILLER	12345	00:30	01:30	฿24,000.00	4	600	240	360	40	60	1/10/98	31/10/99
	376	HOT LINE ENTERTAINMENT	4	00:30	01:00	฿0.00	4	300	300	0	100	0	4/2/99	31/10/99
	158	EXPOSED	7	05:30	06:00	฿22,000.00	1	300	300	0	100	0	1/10/98	31/12/99
	539	AMAZING GOLF	1	05:30	06:00	฿0.00	1	300	300	0	100	0	3/10/99	31/10/99

DECEMBER ▼ 1999 ▼   ○ MONTH   ○ SUNDAY   ○   ○ TUEDAY   ○ WEDNES   ○ THURS   ○ FRIDAY   ○ SAT

PROGRAM LISTING

NEW RECORD   EDIT RECORD   DELETE

ENG. PRG NAME :   UPDATE RECORD

Figure E.6.   Program Listing Screen.

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Figure E.7. Customer Order Entry Screen.

Figure E.8.   Tape Spot Information Screen.
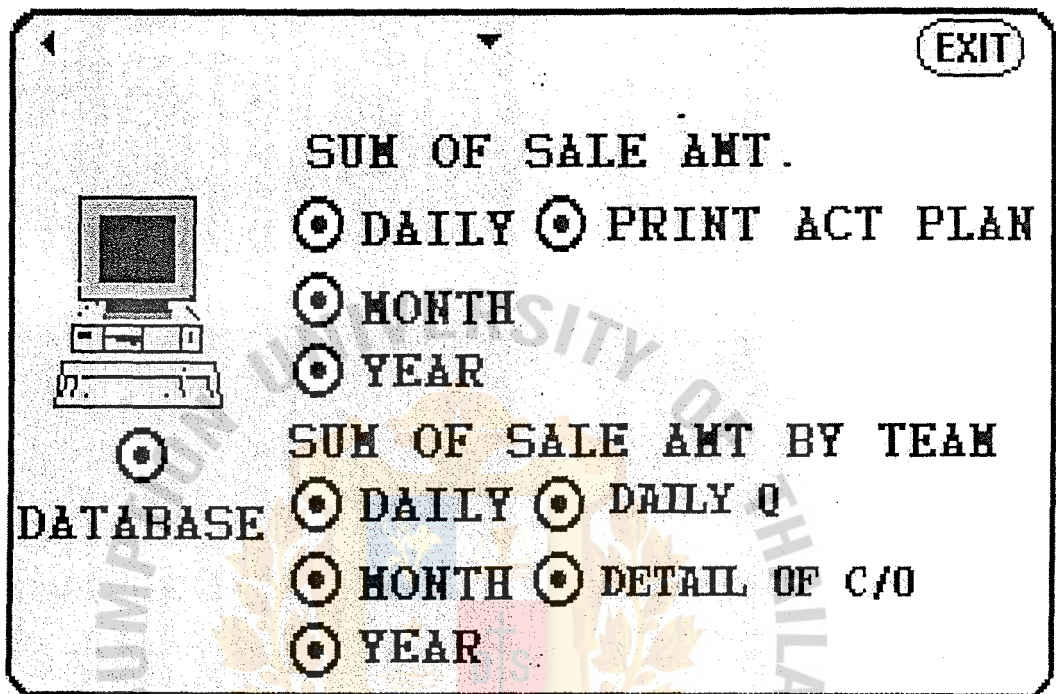
Figure E.9. Executive User Screen.

APPENDIX   F

OUTPUT REPORT

Summary of GUI Spot per year

XXXXXXXXXXXXXXXXXXXXXXXXXX

From xxxxx To xxxxx 1999

By customer order

Month	Spot min.	Amt.	disc	Price after disc	Vat	Total amount
xxxxx	9.99	9,999,999.00	999,999.00	9,999,999.00	999,999.00	9,999,999.00
xxxxx	9.99	9,999,999.00	999,999.00	9,999,999.00	999,999.00	9,999,999.00
xxxxx	9.99	9,999,999.00	999,999.00	9,999,999.00	999,999.00	9,999,999.00
xxxxx	9.99	9,999,999.00	999,999.00	9,999,999.00	999,999.00	9,999,999.00
xxxxx	9.99	9,999,999.00	999,999.00	9,999,999.00	999,999.00	9,999,999.00
Total	9.99	9,999,999.00	999,999.00	9,999,999.00	999,999.00	9,999,999.00

Figure F.1.   Summary of GUI Spot per year [by customer] Report .

Summary of GUI Spot per year

XXXXXXXXXXXXXXXXXXXXXXXX

From xxxxx To xxxxx 1999

By Free

Month	Spot min.	Amt.	disc	Price after disc	Vat	Total amount
xxxxx	9.99	9,999,999.00	999,999.00	9,999,999.00	999,999.00	9,999,999.00
xxxxx	9.99	9,999,999.00	999,999.00	9,999,999.00	999,999.00	9,999,999.00
xxxxx	9.99	9,999,999.00	999,999.00	9,999,999.00	999,999.00	9,999,999.00
xxxxx	9.99	9,999,999.00	999,999.00	9,999,999.00	999,999.00	9,999,999.00
xxxxx	9.99	9,999,999.00	999,999.00	9,999,999.00	999,999.00	9,999,999.00
Total	9.99	9,999,999.00	999,999.00	9,999,999.00	999,999.00	9,999,999.00

Figure F.2. Summary of GUI Spot per year [by free] Report .

Summary of GUI Spot [by VTR] per year

From xxxxx To xxxxx 1999

XXXXXXXXXXXXXXXXXXXXX

Month	Product	Spot promote prg.	Price / time	Amt. (min.)	Price after disc	Vat	Total amount
xxxx 2542	xxxxxxxxx	xxxxxx (xxxxx)	9,999,999.00	9.99	9,999,999.00	999,999.00	9,999,999.00
xxxx 2542	xxxxxxxxx	xxxxxx (xxxxx)	9,999,999.00	9.99	9,999,999.00	999,999.00	9,999,999.00
xxxx 2542	xxxxxxxxx	xxxxxx (xxxxx)	9,999,999.00	9.99	9,999,999.00	999,999.00	9,999,999.00
xxxx 2542	xxxxxxxxx	xxxxxx (xxxxx)	9,999,999.00	9.99	9,999,999.00	999,999.00	9,999,999.00
xxxx 2542	xxxxxxxxx	xxxxxx (xxxxx)	9,999,999.00	9.99	9,999,999.00	999,999.00	9,999,999.00
Total			9,999,999.00	9.99	9,999,999.00	999,999.00	9,999,999.00

Figure F.5. Summary of GUI Spot per year [by VTR] Report.

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Summary of GUI Spot Promote per year

From xxxxx To xxxxx 1999

XXXXXXXXXXXXXXXXXXXXXXXX

Month	Product	Spot promote prg.	Price / time	Amt. (min.)	Price after disc	Vat	Total amount
xxxx 2542	xxxxxxxxxx	xxxxxxx (xxxxx)	9,999,999.00	9.99	9,999,999.00	999,999.00	9,999,999.00
xxxx 2542	xxxxxxxxxx	xxxxxxx (xxxxx)	9,999,999.00	9.99	9,999,999.00	999,999.00	9,999,999.00
xxxx 2542	xxxxxxxxxx	xxxxxxx (xxxxx)	9,999,999.00	9.99	9,999,999.00	999,999.00	9,999,999.00
xxxx 2542	xxxxxxxxxx	xxxxxxx (xxxxx)	9,999,999.00	9.99	9,999,999.00	999,999.00	9,999,999.00
xxxx 2542	xxxxxxxxxx	xxxxxxx (xxxxx)	9,999,999.00	9.99	9,999,999.00	999,999.00	9,999,999.00
Total			9,999,999.00	9.99	9,999,999.00	999,999.00	9,999,999.00

Figure F.6. Summary of GUI Spot Promote per year Report .

Summary of GUI Sponsor per year

From xxxxx To xxxxx 1999

XXXXXXXXXXXXXXXXXXXXXXXXX

By Product

Month	Product	Sponsor program	Price / time	Amt. (min.)	Price after disc	Vat	Total amount
xxxx 2542	xxxxxxxxx	xxxxxx (xxxxx)	9,999,999.00	9.99	9,999,999.00	999,999.00	9,999,999.00
xxxx 2542	xxxxxxxxx	xxxxxx (xxxxx)	9,999,999.00	9.99	9,999,999.00	999,999.00	9,999,999.00
xxxx 2542	xxxxxxxxx	xxxxxx (xxxxx)	9,999,999.00	9.99	9,999,999.00	999,999.00	9,999,999.00
xxxx 2542	xxxxxxxxx	xxxxxx (xxxxx)	9,999,999.00	9.99	9,999,999.00	999,999.00	9,999,999.00
xxxx 2542	xxxxxxxxx	xxxxxx (xxxxx)	9,999,999.00	9.99	9,999,999.00	999,999.00	9,999,999.00
Total			9,999,999.00	9.99	9,999,999.00	999,999.00	9,999,999.00

Figure F.7. Summary of GUI Sponsor per year Report.

Summary of GUI Spot [by VTR] per year

From xxxxx   To   xxxxx 1999

XXXXXXXXXXXXXXXXXXXXXXX

Month	Product	Spot promote prg.	Price / time	Amt. (min.)	Price after disc	Vat	Total amount
xxxx 2542	xxxxxxxxx	xxxxxx (xxxxx)	9,999,999.00	9.99	9,999,999.00	999,999,999.00	9,999,999.00
xxxx 2542	xxxxxxxxx	xxxxxx (xxxxx)	9,999,999.00	9.99	9,999,999.00	999,999,999.00	9,999,999.00
xxxx 2542	xxxxxxxxx	xxxxxx (xxxxx)	9,999,999.00	9.99	9,999,999.00	999,999,999.00	9,999,999.00
xxxx 2542	xxxxxxxxx	xxxxxx (xxxxx)	9,999,999.00	9.99	9,999,999.00	999,999,999.00	9,999,999.00
xxxx 2542	xxxxxxxxx	xxxxxx (xxxxx)	9,999,999.00	9.99	9,999,999.00	999,999,999.00	9,999,999.00
Total			9,999,999.00	9.99	9,999,999.00	999,999,999.00	9,999,999.00

Figure F.5. Summary of GUI Spot per year [by VTR] Report .

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Summary of ITV Sponsor per year

From xxxxx To xxxxx 1999
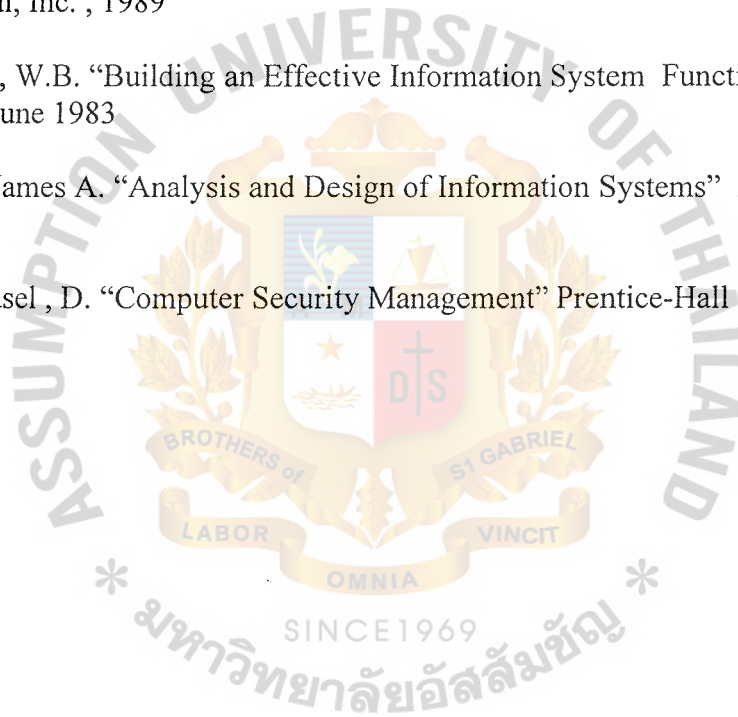
XXXXXXXXXXXXXXXXXXXXXXXXXXX

By Product

Month		product	sponsor program	price / time	amt. (min)	price after disc.	vat	total amount
XXXXX	2542	xxxxxxxxxxxxxxxxxxx	xxxxxxxx (xxxxx)	9,999,999.00	9.99	9,999,999.00	9,999,999.00	9,999,999.00
XXXXX	2542	xxxxxxxxxxxxxxxxxxx	xxxxxxxx (xxxxxx)	9,999,999.00	9.99	9,999,999.00	9,999,999.00	9,999,999.00
XXXXX	2542	xxxxxxxxxxxxxxxxxxx	xxxxxxxx (xxxxxx)	9,999,999.00	9.99	9,999,999.00	9,999,999.00	9,999,999.00
XXXXX	2542	xxxxxxxxxxxxxxxxxxx	xxxxxxxx (xxxxxx)	9,999,999.00	9.99	9,999,999.00	9,999,999.00	9,999,999.00
XXXXX	2542	xxxxxxxxxxxxxxxxxxx	xxxxxxxx (xxxxxx)	9,999,999.00	9.99	9,999,999.00	9,999,999.00	9,999,999.00
Total						9,999,999.00	9,999,999.00	9,999,999.00

Figure F.7 : Summary of ITV Sponsor per year Report

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